

THE  
NATURAL HISTORY  
OF THE  
SCARBOROUGH DISTRICT

VOLUME TWO

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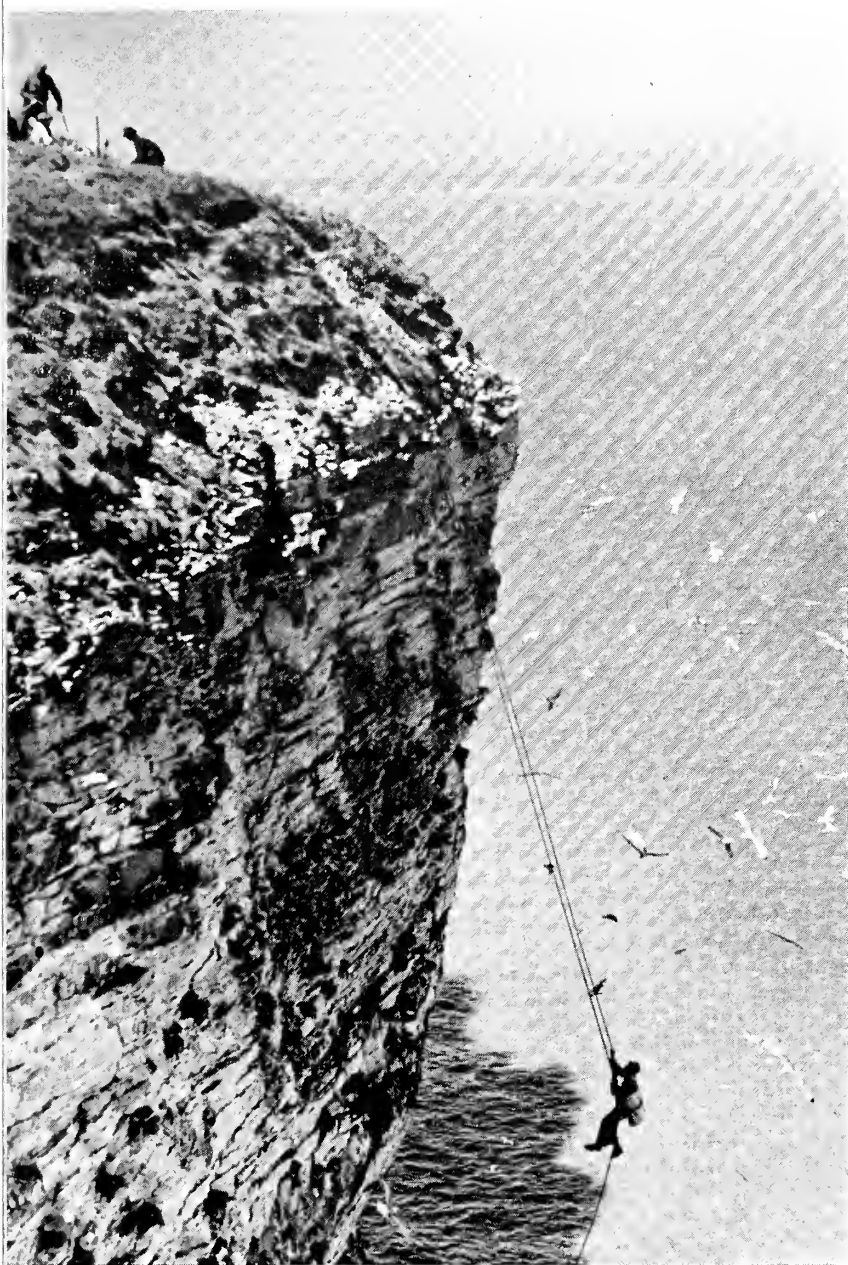




THE  
NATURAL HISTORY  
OF THE  
SCARBOROUGH DISTRICT

VOLUME 2 - ZOOLOGY





THE BEMPTON CLIMBERS

See note on page VII  
Photograph : Yorkshire Post



# Scarborough Field Naturalists' Society

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Natural History. They apologise for the great delay which has been caused  
by a chain of circumstances entirely beyond their control.



THE  
NATURAL HISTORY  
OF THE  
SCARBOROUGH DISTRICT

VOLUME 2 - ZOOLOGY

Edited by  
G. B. WALSH, B.Sc., and F. C. RIMINGTON, M.P.S.

with a Foreword by  
Professor E. A. SPAUL, D.Sc., Ph.D., F.Z.S.,  
Professor of Zoology at the University of Leeds

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Founded 1889

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## PREFACE

The present volume on Zoology contains the latest known work on the fauna of the Scarborough District.

From the very nature of things the lists cannot be complete, since the fauna and flora fluctuate from year to year; moreover the greater part of the area has not been fully investigated and many sections of its inhabitants have not yet been collected and studied.

Nevertheless it furnishes a groundwork on which succeeding generations can build and from which they can draw conclusions as to the changes brought about by time and new conditions of the countryside.

We should like to thank all those who have helped us in so many ways in the preparation of this work. We regret to have to record the loss by death during that time of our valued friends and collaborators James Meikle Brown, Edward R. Cross, James M. Gloag and E. Arnold Wallis.

We also wish to acknowledge our deep indebtedness to Athol J. Wallis, son of Arnold Wallis who carried out with rare efficiency the work of proof-reading the present volume.

In 1954 the Senior Editor lost his sight owing to glaucoma. After this date most of the work of preparing this book for the press was performed by the Joint Editor, Mr. F. C. Rimington, to whom the Society expresses its deep and grateful thanks for the excellent way in which it was undertaken.

Finally our special thanks are due to Professor E. A. Spaul, of Leeds University, for writing the foreword and for the great interest he has taken in our work since its inception.

## NOTE ON FRONTISPIECE

## THE BEMPTON CLIMMERS

The passing of the 1954 Bird Protection Act has brought to an end a tradition which had been carried on for the past two and a half centuries, for now that the Guillemot and Razorbill are fully protected by law, the taking of their eggs has become a punishable offence. In 1955, for the first time for almost 250 years, the birds that nest on the cliffs of Bempton and Flamborough have done so free from molestation by climbers descending the cliffs egg-gathering.

The right to climb any stretch of the cliffs belonged to the farmer who owned or tenanted the fields adjacent to the cliff-edge, and this privilege was commonly extended to the farm-workers. Latterly the farmers "rented" the right to climb to the various teams who worked the different sections of the cliffs.

A team consisted of four men, the "climber", the "lowerer" and two assistants. Their equipment included two stout hemp ropes, 300 feet in length, long spikes with pulley-wheels attached for guiding the rope over the cliff edge, a steel-lined girdle worn by the lowerer and round which the rope slid to give more purchase to his hold, and in more recent years a hand-winch for hauling the climber up the cliff face. Since the war years the climber usually wore a steel helmet, but in earlier days a top-hat stuffed with dry grass to break the impact of any dislodged stones, was the customary headgear.

A detailed account of a descent is given by T. H. Nelson in "Birds of Yorkshire", and the methods used then were still in use in 1954. The signals used by the climber to indicate his wishes to the lowerer out of sight above, have been handed down from generation to generation.

In 1834 the eggs sold for sixpence a score, by 1907 the price was 12 to 16 for a shilling and in 1954 the common colourings of the Guillemots' and Razorbills' eggs cost sixpence each if bought direct from the climbers at the cliff-top. At all times peculiarly marked or "fancy" eggs fetched much higher prices, up to 7/6 or 10/- each.

About the middle of the 19th century climbing almost stopped because of an even more ruthless persecution of the birds by gunners, who often never even troubled to pick up the birds they had killed or maimed. So intense was the shooting that in 1869 the "Sea-Birds Preservation Act" was passed as a result of public indignation.

After the passing of this Act climbing was recommenced as the birds recovered in numbers, and writing in 1907 Nelson quotes 130,000 eggs as an average haul for a season. He claims that despite this tremendous loss the Guillemot was not decreasing in numbers, but quite certainly it did so, steadily, in later years. So much so that the Wild Birds and Eggs Protection Acts Committee of the Yorkshire Naturalists' Union held a joint meeting with the climbers in 1938 in an endeavour

to restrict, by mutual consent, the dates between which climbing should be allowed. In "Yorkshire Birds", Ralph Chislett, who attended that meeting, gives details of the points raised on both sides, but although the climbers were impressed by the arguments put forward, they did not agree entirely to the restrictions suggested.

The decrease in the number of Guillemots on the Bempton cliffs had almost reached the stage when serious action would have had to be considered had the 1954 Act not reached the Statute Book and given protection through its general application to all birds.

A. J. Wallis.

The publication of this book would have been impossible without the generous financial assistance from the Royal Society, the Corporation of Scarborough, the Executive Committee of the (late) Scarborough Philosophical and Archæological Society, and the executors of the late W. J. Clarke.

## FOREWORD

Professor E. A. Spaul, D.Sc., Ph.D., F.Z.S.

Man has been interested in animals and their natural surroundings since early times but whereas in the beginning this interest was related to the extent animals could serve useful purposes or contribute to his essential needs, it was only during the last century or so that it became a scientific study concerned with the description, identification and classification of animals. The discoveries of Darwin and other naturalists gave stimulus and prestige to the study of Natural History and encouragement to natural history societies whose activities have produced extensive surveys of the flora and fauna of many districts, whilst a vast amount of information was gathered for the study of species and systematics. Nowadays the latter contribution is perhaps no longer significant, for these subjects, now well established, have become the province of experts and specialists with adequate libraries, laboratories and type collections available for reference to deal with the advance in knowledge and the necessary need for accurate detail in identification.

There are however other important aspects of field work which need the active help of field naturalists. The last three or four decades have seen the rise of ecology - a new scientific natural history seeking to establish a more exact understanding of the inter-relationships between plants and animals and their environment and gain thereby some measure of the general pattern of life. The problems and objectives are different from the old, and new methods and techniques are required, but the plants and animals have to be named so that as before the records of naturalists are of paramount importance. Much needed detail exists in field records, yet field workers can obtain still more necessary information of value and importance by an appreciable extension of the range and scope of their observations and enquiries to give more precise detail of the physical characteristics of an environment and discover more about the lives, habits and relationships of plants and animals. In this way a notable contribution can be made to investigations which are only beginning to explore a great new and important field of knowledge.

Again, continuous recording in any locality particularly over years can reveal the influence of alterations in the physical environment through natural agencies or human activity with the loss or addition of species or changed habits and behaviour following modification and alterations in social structure or activities. Industrialism, town planning and pollution for instance, can produce changes in the relations and distribution of plants and animals possibly even more profound than those due to storm, flood or landslide. These effects have not received all the attention from naturalists they deserve.

Field records are not always readily accessible as they are either scattered in various publications or shut away in the files or record

books of natural history societies and it was a very worthy and far-seeing decision of the Scarborough Field Naturalists' Society to gather together their records collected for over a century and publish them so that they would be available to all who need them. The publication in two volumes is not only a fine tribute to the labour and enthusiasm of past and present members, including many distinguished authorities, but remarkable for the surprising wealth of detail in a variety and diversity of field interests. It is also of first-class importance, for the area covered possesses many unique and notable natural features and is famed for its attractive coastline and landscapes, whilst part is included in a National Park. The value and success of the production should encourage other societies to ensure the publication of their records. It is fortunate that these volumes appear when there is an increasing interest in the study of nature and also at a time when a new approach is evident in natural history. Naturalists are becoming no longer content merely to collect and identify, but seek a wider and more intimate knowledge of life using their facts to interpret problems that confront them. It is appropriate too that these volumes arrive when there is a growing concern for our countryside and a realisation of the need to conserve and preserve our flora and fauna which is now appreciated as a national heritage.

All these circumstances fully justify the publication and emphasise its value and usefulness.

Finally, a grateful recognition must be given to the immense labour of Mr. G. B. Walsh, the editor. The completion of the work fittingly crowns years of devotion to natural history and enthusiasm in support of the Scarborough Field Naturalists' Society, and it brings a climax of distinction to his many contributions to the subject. It has been no light task, difficulties seemed unending, many disappointments have had to be faced, but his patience has persisted and his purpose never lost its strength. He did not falter, and now he has triumphed. Throughout he has been efficiently and effectively supported by Mr. F. C. Rimington, and for this he is especially deserving of our gratitude.

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## ACKNOWLEDGEMENTS

The Editors desire to express their grateful thanks to the following for permission to reproduce the photographs which illustrate this volume. The Yorkshire Post (Frontispiece), Dr. J. H. Fraser (Pl. II), Miss J. Bown, of the Observer (Pl. III), Mr. V. J. Watson (Pls. IV and V), Mr. E. Horsfall Turner (Pl. VI), Mr. A. J. Wallis (Pl. VII), Mr. Peter Scott and Mr. J. V. Beer (Pl. VIII), Mr. R. Chislett (Pl. IX), Field Sports and Mr. W. Parkinson for the loan of Pl. X block.

# THE SCARBOROUGH FIELD NATURALISTS' SOCIETY

## A SHORT HISTORY

A. J. Wallis.

This volume, dealing with the Fauna of the Scarborough District, and the companion volume published in 1953 on the Geology and Botany, have been compiled as the result of the careful observations and recordings made during the past 67 years by the members of the Scarborough Field Naturalists' Society. In order to make these two volumes as complete as possible help has been sought from specialists in various fields of Natural History which have not been covered by members so comprehensively as some, but in the main the majority of the records here recorded have been made by local men and women who have joined the Society and have shared their knowledge with their fellow members, each adding his own quota to the records which have been so meticulously kept.

On 4th November, 1889, six men met in a room behind a stationer's shop in Westborough with the precise purpose in mind of forming a natural history society. Their names were W. J. Clarke, W. Gygell, J. A. Hargreaves, E. Parker, T. Rines and J. H. Rowntree. None of them is now living, but their memory has been assured through the publication of these records which include many made by these founder members.

Notice of that first meeting was sent to the press, with details of the objects and aims for which the society was being formed. The response was immediate, for a week later a second meeting was held and 20 townsmen were received into membership and Mr. J. H. Rowntree was appointed the first president.

The membership of the Society soon grew, and while there have been the usual ups and downs, the total number of members paying their annual subscription remains remarkably steady at between 100 and 120.

The subscription rate fixed at the outset of the Society was 5/-d. per year, and it has remained at 5/-d. without increase ever since.

At first the meetings were held in the private houses of members, and at these meetings the procedure was the same as it is to-day. Individual members brought to the meeting specimens they wished to show or made a report on some observation of interest, and afterwards a paper was read dealing with some aspect of the natural history of the district.

The opportunity the meetings give for any member who wishes to show a specimen of interest, or to seek help and advice over something that cannot be readily identified or understood has proved to be of such value that the first half of all meetings is given over to exhibits

and reports of this kind. In fact at three meetings each year the whole of the evening is thrown open for the members to exhibit their finds, and no set paper is read on these occasions. The three meetings are arranged to coincide as nearly as possible with the peak period of the spring, summer and autumn seasons.

The meetings continued to be held fortnightly in private homes until January, 1891, when the Society became affiliated to the Scarborough Philosophical and Archæological Society which had been in existence for some many years and had included in its ranks many well known naturalists. The Philosophical Society owned the Museum at the bottom of Vernon Road, and from 1891 until 1936 the meetings were held there. From accounts that have been handed down these meetings were of a very high standard and each meeting came to a close because of the lateness of the hour and not through a lack of enthusiasm.

In 1936 the Museum was handed over to the Scarborough Corporation for the benefit of the town, and the Philosophical Society ceased to exist in its original form. The Naturalists' Society continued with its activities and its meetings have been held in the Public Library ever since.

Many famous local men and women have been members of the Society and it would be out of place to mention any particular one by name, but through their interest in the Society and the natural history of the district they have all shared in adding to the cultural life of the town.

The help and advice of the Society has been called upon on occasions, and individual members are frequently being asked to identify unusual creatures or explain peculiar phenomena that may occur in the district. In 1898, for instance, Lord Londesborough sought the advice of the botanical members about planting rare and showy shrubs in Raincliffe Woods, and was advised that the woods should be left undisturbed and in their natural state.

In more recent times the Borough Engineer discussed the cutting of the reeds at the Mere with two members in order that as little disturbance as possible to the reed warblers' nesting place should result, and the Forestry Commission has always shown a willingness to help in preserving any piece of ground or particular plant which has been brought to their notice by the Society or its members.

On one memorable occasion a dinner was held at the home of one of the members. All those who attended had to take with them some contribution to the fare consisting of or made from some wild fruit and other food. Rook and sparrow pie, toadstools and various dishes made from berries were included in the menu, with garden snails for savoury. The occasion had an unhappy ending when a bottle of gale beer brought by one member blew its cork with decidedly damaging effects on their hostess's ceiling. The experiment was not repeated.

In 1906 the Society staged the first of its two exhibitions. On the first occasion it was staged at the Grand Hotel, in conjunction with

other sections of the joint Society, and was put on with the sole purpose of raising funds for the parent body, the Philosophical Society. The exhibition, which was made up of living specimens in so far as was possible, raised £388 during the three days it was on show.

The second exhibition was held in 1948, and had no motive other than a desire of the members to interest the people of the town in the Society's activities. No charge was made though visitors were invited to contribute a donation if they wished. This time the exhibition was held in the Public Library, and again the emphasis was on living specimens rather than museum skins and exhibits.

An invitation was sent to all local schools to attend, and this proved so successful that the authorities asked that the exhibition be kept open for a day longer than was originally intended.

These two volumes are ample evidence that not all the work done by the Society and its members has been in museums and lecture rooms. A lot of valuable observing and collecting of information has been carried out by individual members, and it is most encouraging that in recent years the younger members have taken their full share in this work.

For several years after they had left school and before their other engagements took them away from Scarborough two boys did most careful and thorough work on the Lepidoptera, working alone or together.

Some time ago, working under the expert guidance of the curator of the Scarborough Natural History Museum at Wood End, Mr. G. G. Watson, a group of boys spent a whole year observing and studying, both in the field and in the museum, the life history of the badger. At the end of the year the report of their findings was presented to the Society and is a most comprehensive survey of this creature's status in the district, its habits and structure.

For the compilation of this and the previous volume help was sought from two or three members who had no, or only little, previous knowledge of the section they were asked to undertake and prepare for printing. The enthusiasm with which they approached their task, both by field work and by research into past records has been of great encouragement to the Society.

It was hoped at one time that this publication would be published on the occasion of the Society's diamond jubilee, and although that hope was not fulfilled, it is still our earnest wish that the future members will not regard this as the culmination of the Society's efforts, but that it will be an indicator to the mass of knowledge which is still waiting to be unfolded in the Scarborough District.

PRESIDENTS AND SECRETARIES  
OF THE  
SCARBOROUGH FIELD NATURALISTS' SOCIETY  
FROM  
1889 TO 1956

President	Secretary or Joint Secretaries.
1889 J. H. Rowntree.	W. Gyngell.
1890 J. H. Rowntree.	W. Gyngell.
1891 J. H. Rowntree.	W. Gyngell.
1892 J. A. Hargreaves.	R. Gilchrist.
1893 R. Gilchrist.	D. W. Bevan.
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	R. Gilchrist.
1895 W. Gyngell.	R. Gilchrist.
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	W. Gyngell.
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	E. A. Wallis.
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	G. J. Jones.
1902 W. Gyngell.	G. J. Jones.
	E. B. Lotherington.
	W. J. Clarke, F.Z.S.
1903 R. Gilchrist.	G. J. Jones.
	E. B. Lotherington.
	W. J. Clarke, F.Z.S.
1904 J. Irving, M.D.	T. N. Roberts.
	Miss I. Simpson.
	W. J. Clarke, F.Z.S.
1905 T. N. Roberts.	Miss I. Simpson.
	D. W. Bevan.
	W. J. Clarke, F.Z.S.

	President	Secretary or Joint Secretaries.
1906	D. W. Bevan.	W. J. Clarke, F.Z.S. A. S. Tetley, M.A., F.E.S.
1907	E. A. Wallis.	A. I. Burnley. A. I. Burnley.
1908	W. J. Clarke, F.Z.S.	W. J. Clarke, F.Z.S. Miss N. Miers. W. J. Clarke, F.Z.S. Miss N. Miers.
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1915	T. B. Roe.	W. R. Grist, B.Sc.
1916	E. R. Cross, M.P.S.	W. R. Grist, B.Sc.
1917	E. R. Cross, M.P.S.	W. R. Grist, B.Sc.
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1920	T. N. Roberts.	G. B. Walsh, B.Sc.
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1922	D. W. Bevan.	G. B. Walsh, B.Sc.
1923	G. B. Walsh, B.Sc.	E. A. Wallis.
1924	G. B. Walsh, B.Sc.	E. A. Wallis.
1925	A. I. Burnley.	E. A. Wallis.
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1927	A. E. Peck.	C. B. Haigh, M.Sc.
1928	E. A. Wallis.	C. B. Haigh, M.Sc.
1929	H. M. Hirst, M.P.S.	C. B. Haigh, M.Sc.
1930	L. H. Thompson.	C. B. Haigh, M.Sc.
1931	G. B. Walsh, B.Sc.	C. B. Haigh, M.Sc.
1932	C. B. Haigh, M.Sc.	H. H. Farwig.
1933	H. E. Benham.	H. H. Farwig.
1934	G. B. Walsh, B.Sc.	H. H. Farwig.
1935	Mrs. R. A. Leefe.	H. H. Farwig.
1936	W. J. Clarke, F.Z.S.	H. H. Farwig.

President

Secretary or Joint Secretaries.

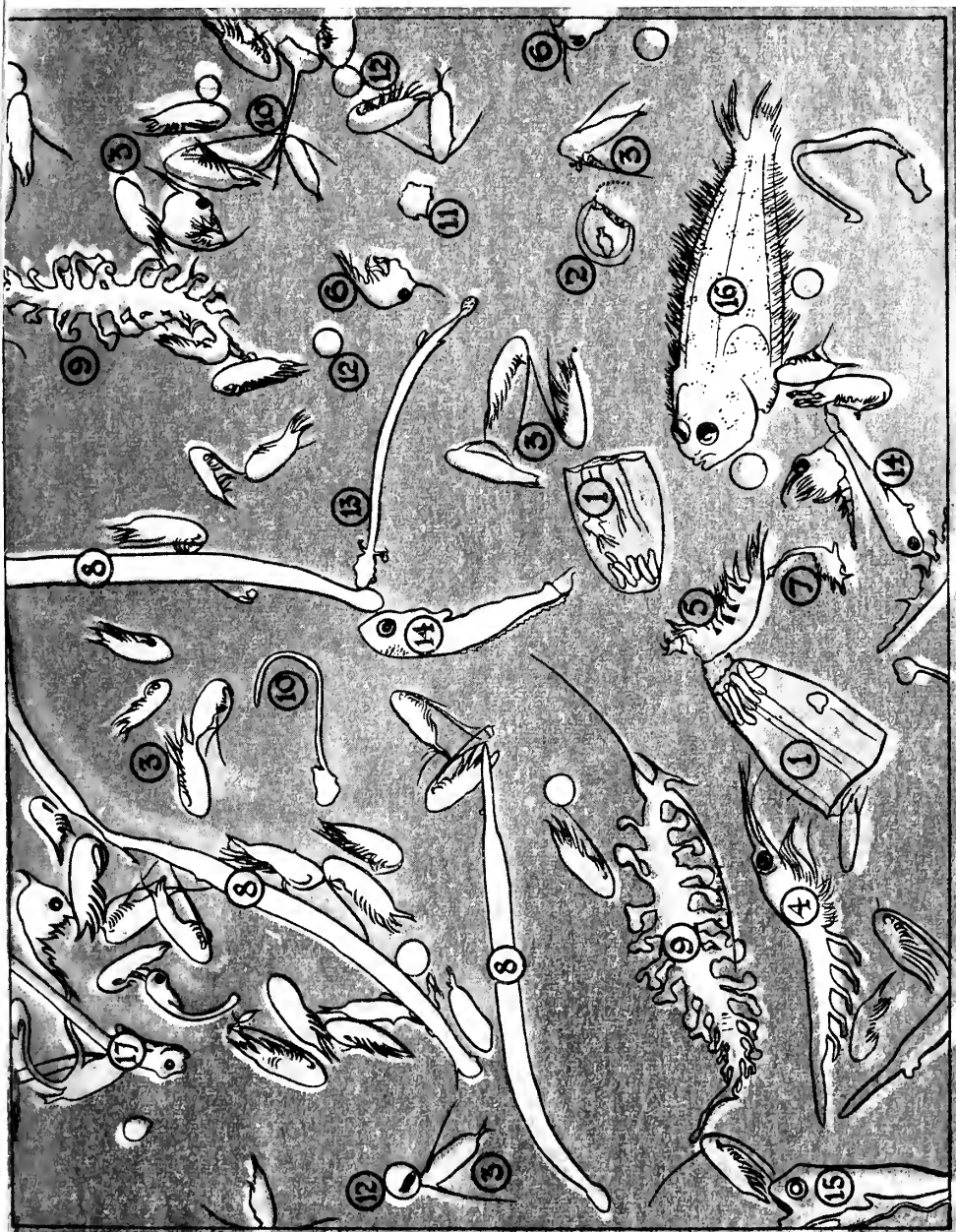
1937	S. Rowntree.	H. H. Farwig.
1938	D. W. Bevan.	H. H. Farwig.
1939	W. J. Clarke, F.Z.S.	H. H. Farwig.
		G. B. Horsman.
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1947	F. C. Rimington, M.P.S.	G. B. Walsh, B.Sc.
1948	F. C. Rimington, M.P.S.	G. B. Walsh, B.Sc.
1949	E. A. Wallis.	A. J. Wallis, A.C.I.S.
1950	E. A. Wallis.	A. J. Wallis, A.C.I.S.
1951	D. J. Price, B.Sc.	A. J. Wallis, A.C.I.S.
1952	D. J. Price, B.Sc.	A. J. Wallis, A.C.I.S.
1953	Miss K. Wrightson, M.P.S.	A. J. Wallis, A.C.I.S.
1954	Miss K. Wrightson, M.P.S.	J. R. Lidster.
1955	R. J. R. Giblett, M.A., F.R.G.S.	J. R. Lidster.
1956	R. J. R. Giblett, M.A., F.R.G.S.	Miss K. Wrightson, M.P.S.

## Key to Plate II

## Zooplankton of the North Sea

1. MEDUSA — *Aglantha digitale*
2. MEDUSA — *Hybocodon prolifer*
3. COPEPODA — *Calanus finmarchicus*
4. EUPHAUSIACEA — *Meganyctiphanes norvegica*
5. AMPHIPODA — *Themisto gracilipes*
6. DECAPODA — Zoea of crab (?*Portunus*)
7. DECAPODA — Larva of hermit crab (*Eupagurus*)
8. CHAETOGNATHA — *Sagitta elegans*
9. ANNELIDA — *Tomopteris heligolandica*
10. TUNICATA — *Oikopleura labradoriensis*
11. ENTEROPNEUSTA — Tornaria larva of *Balanoglossus*
12. Fish eggs
13. Herring larva
14. Mackerel larva
15. Haddock larva
16. Long rough dab larva
17. Witch larva

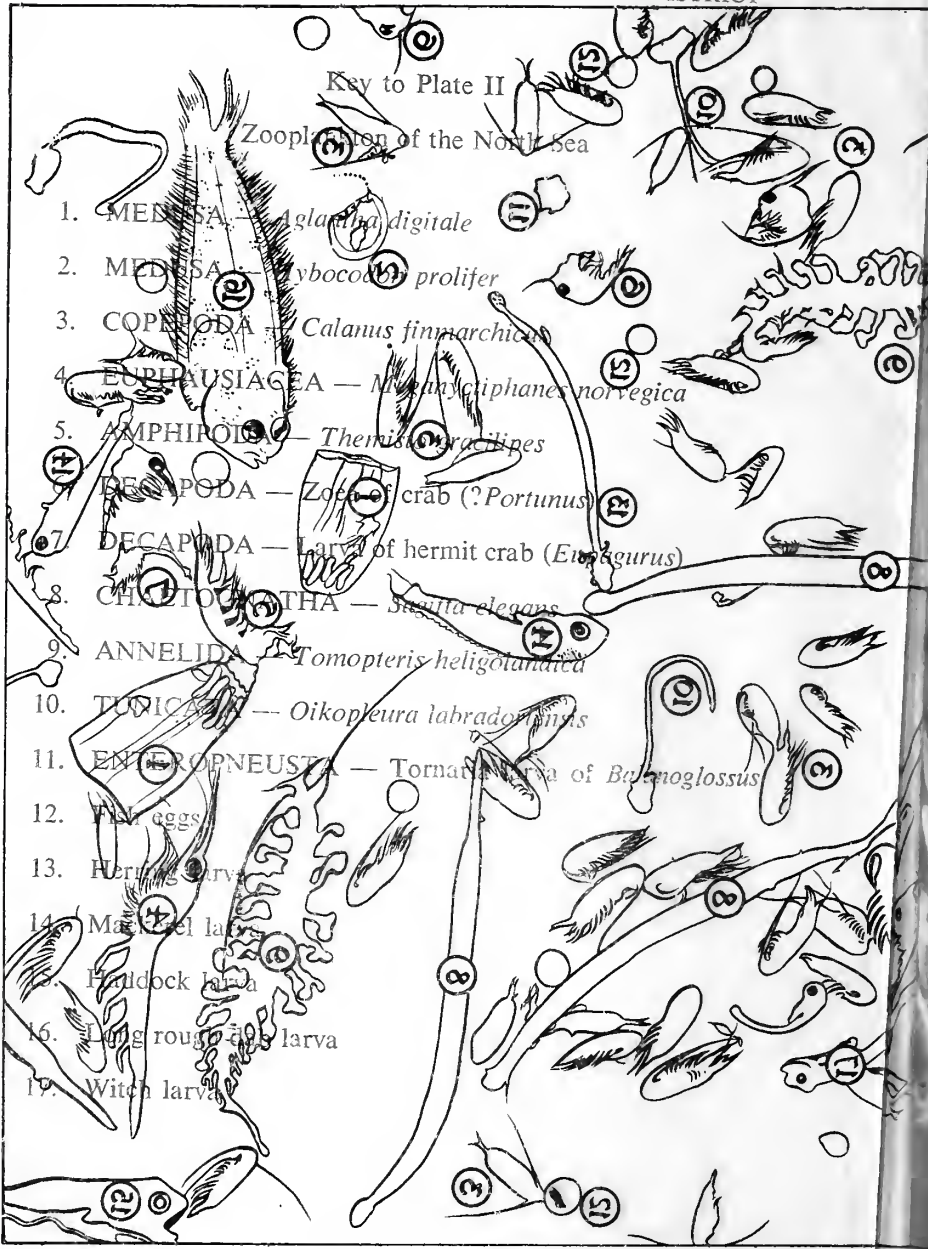




## NATURAL HISTORY OF THE SCARBOROUGH DISTRICT

## Key to Plate II

## Zooplankton of the North Sea

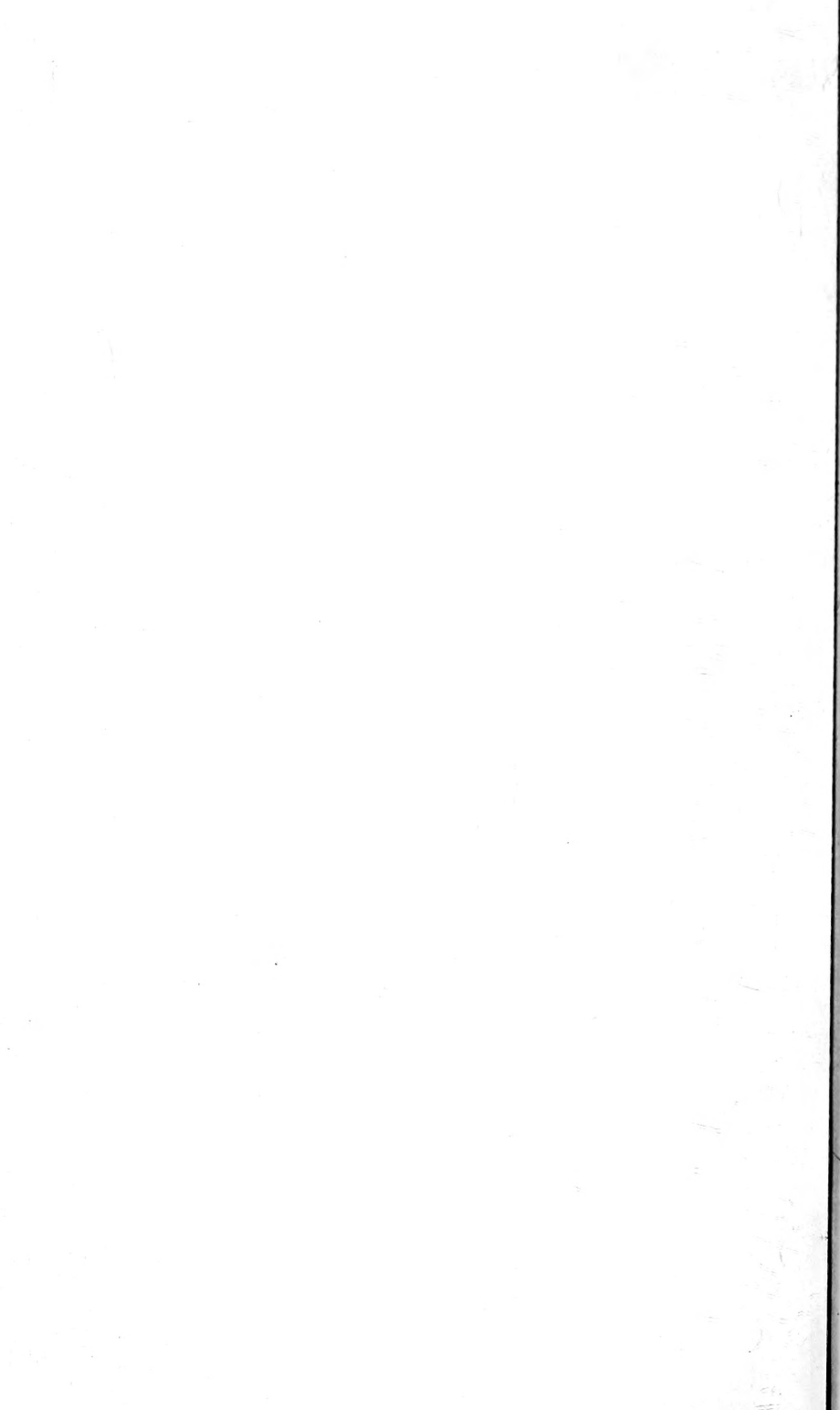
- 
1. MEDUSA — *Aequorea digitale*
  2. MEDUSA — *Physalia physalis*
  3. COPEPODA — *Calanus finmarchicus*
  4. EUPHAUSIACEA — *Mesocyclops norvegicus*
  5. AMPHIPODS — *Themisto gracilipes*
  6. DECAPODA — Zoea of crab (? *Portunus*)
  7. DECAPODA — Larva of hermit crab (*Eugagrus*)
  8. CHAETOGNATHA — *Squilla elegans*
  9. ANNELIDA — *Tomopteris heligolandica*
  10. TUNICATA — *Oikopleura labradoriensis*
  11. ENTROPONEUSTA — Tornaria larva of *Balanoglossus*
  12. Fish eggs
  13. Herring larva
  14. Mackerel larva
  15. Haddock larva
  16. Lingcod larva
  17. Witch larva





ZOOPLANKTON OF THE NORTH SEA

Photograph J. H. Fraser  
*facing page 6*



# MARINE INVERTEBRATES

Professor E. A. Spaul

## INTRODUCTION

The coastline of the Scarborough district extends roughly in a direction N.N.W. to S.S.E., and the differing quality, arrangement and varying resistance to the sea of the geological formations along its length have produced the diversity of character and scenic beauty for which it is so famed. High cliffs and prominent headlands with little or no shore at their base contrast with the wide sweep of the exposed bays where the soft material has been washed away to give a rocky or sandy expanse. Weathered boulders, rocky ledges, rock pools, rough and uneven scars extending along the shore or out to sea, stretches of sand or pebble, steep or shallow shelving shores, provide between the tide levels along this coast an unlimited range of habitats for marine life which, although abundant, is not so rich and varied as that of some other areas. Two factors in particular affect the fauna. Erosion of the coast gives shifting sand and alters or reduces the pools so that it is difficult for many shore forms to become permanently established or to maintain themselves in their habitats, whilst on the exposed rocky shores bordering upon deep water few species can withstand the violence of the storms. Again in the North Sea the water of the Atlantic coming up from the English Channel or round from the north mixes continuously with the fresh water from the rivers and the Baltic, so that there is a variation of salinity off the coast from month to month, even year to year. The temperature of the water is generally below that to the south and may be responsible for some of those northern tendencies in the character of the fauna.

Many noted naturalists, in particular W. J. Clarke, Dr. J. Irving, J. Stevenson and Rev. F. H. Woods, have contributed much by their observations in past years and valuable additions to our knowledge continue through the activity of many experts and experienced enthusiasts. The records are confined to those collected along a stretch of coast from Sandsend to Bridlington and include not only those of the Scarborough Field Naturalists' Society but others scattered in various publications such as "The Annals and Magazine of Natural History", "The Naturalist", "The Transactions of the Hull Scientific Field Naturalist Club", "The Victoria History of the County of York", etc. The information from all these sources has been gathered into the following lists and classified as far as possible according to the latest authorities. Some of the earlier records are inadequate in detail and description in the light of the exacting requirements of modern taxonomy and in consequence it has not been easy in every case to establish with complete certainty the exact identity or classification, especially in the absence of actual specimens. However, with very few exceptions, it has been possible to include all those

recorded, but it will be necessary to check and review many and provide more complete descriptions. Location, time or season and habitat are also important and in this respect many records are deficient. Many species are recorded frequently, others occasionally, but it is not always evident whether the species is rare or common. Some records give an indication of distribution, but few give an indication of numbers or fluctuations.

Some parts of the coast have been surveyed more systematically and consistently than others, mainly on account of differences in accessibility, but there appears to have been little or no continuous observation in any part throughout a long period, whilst little is known of the plankton, and the sea bed off the coast although reported to be rough and of varied character has yet to be thoroughly explored, since what is known is the result of odd trawling expeditions and the identification of material cast up on the shore in stormy weather.

Nevertheless, a great amount of valuable information about the animals living on this shore and their relationships has been brought together, and it will form a useful starting point for more extended and specialised studies, especially those seeking a measure of the changes which are undoubtedly occurring under the influence of erosion, weather, and other factors.

Acknowledgement must be made to the late H. Whitehead, B.Sc., for his valuable assistance in the compilation of this fauna list. He devoted much time and painstaking effort to the preparatory work and his attention to the accuracy of the records was invaluable. The writer is also indebted to Mr. H. Sylvester-Bradley for his records of the Ostracoda.

Finally, special thanks are due to Dr. I. Gordon, Dr. A. B. Hastings, Dr. M. Burton, Dr. W. J. Rees, Dr. J. P. Harding, Mr. S. Prudhoe, Miss P. L. Cook, Miss A. M. Clark, and Mr. H. Ricketts of the British Museum (Natural History) for checking and revising the classifications in keeping with the latest authorities, and other help and ready co-operation.

The following were used for general and special reference :

Plymouth Marine Fauna.

Marine Fauna of the Isle of Man.

The Littoral Fauna of Great Britain—N. B. Eales.

Ray Society Publications—J. S. Bowerbank, T. A. Stephenson, G. T. Allman, W. C. McIntosh, T. A. Scott, J. Alder and A. Hancock, C. Eliot, N. J. Berrill.

A Treatise on Zoology, Pts. I, II, VII—Ray Lankester.

Faune de France, V & XVI—P. Fauvel, IX—E. Chevreux & L. Fage.

The British Marine Mollusca, J. Conch. XIX, No. 7, 1932—

R. Winckworth.

Handbook of the Echinoderms of the British Isles, 1927—T. Mortenson.  
The Linnean Society of London, Synopses of the British Fauna (Nos. 2, 3 and 7).

- The Crustacea of Norway—G. O. Sars.  
 Biologie der Tiere Deutschlands—P. Schulze.  
 Klassen und Ordnungen des Tierreichs—H. G. Bronn.  
 The Invertebrata, 3 vols.—L. H. Hyman.  
 A Monograph of the recent Cephalopoda—British Museum, 1929-1932—  
 G. C. Robson.  
 Fauna und Flora des Golfes von Neapel—Die Polycladen, 1884—  
 A. Lang.  
 A Monograph of British Medusae, 1953—F. S. Russell.  
 The Dinoflagellata of Northern Seas—M. V. Lebour.  
 Protozoology—R. R. Kudo.  
 Transactions of the Linnean Society, London (Zoology), 1916, 11,  
 pp. 197-299 and Jour. Roy. Micro. Soc., 1930, 50, pp. 6-84—  
 E. Heron Allen & A. Earland.  
 Bibliography of Key Works for the identification of the British Fauna  
 and Flora—The Systematics Association—was used for additional  
 references to individual groups.

The phyla are arranged in the following sequence :—

**Protozoa**  
**Porifera**  
**Coelenterata**  
**Platyhelminthes**  
**Nemertinea**  
**Annelida**  
**Sipunculoidea**  
**Priapulioidea**  
**Arthropoda**  
**Mollusca**  
**Echinodermata**  
**Bryozoa**  
**Chaetognatha**  
**Phoronidea**  
**Tunicata**

Key to the names of recorders, and other abbreviations.

The publication is added when not in the records of the Scarborough  
 Field Naturalists' Society.

M.B.A.	—	Marine Biological Association (V.H.Y.).
W.B.	—	W. Bean, V.H.Y.; Jour. of Conchology, 1910.
D.W.B.	—	D. W. Bevan.
J.S.B.	—	J. S. Bowerbank, V.H.Y.
G.S.B.	—	G. S. Brady, V.H.Y.; Jour. of Conchology, 1910.
T.B.	—	T. Brewster.
H.B.	—	H. Britten.
A.I.B.	—	A. I. Burnley, Naturalist, 1919, 1922.
J.D.B.	—	J. D. Butterell, V.H.Y.
W.J.C.	—	W. J. Clarke, V.H.Y.; Naturalist, 1931, 1932.
T.D.A.C.	—	T. D. A. Cockerell, Naturalist, 1888.



H.C.	—	H. Crowther, V.H.Y.
J.P.A.D.	--	J. P. A. Davis, Naturalist, 1890, 1891; Jour. of Conchology, 1910.
N.B.E.	—	N. B. Eales, Lab., 1938.
J.E.	--	J. Ellis, Corallina, 1755; Natural History of Zoophytes, 1786.
G.F.	--	G. Fysher, Naturalist, 1927.
P.H.G.	---	P. H. Gosse, V.H.Y.
O.G.	—	O. Grabham, V.H.Y.; Naturalist, 1896.
W.G.	---	W. Gyngell, Jour. of Conchology, 1910.
R.H.	---	R. Hanitsch, Proc. Liverpool Biological Soc., 1888-89.
J.A.H.	---	J. A. Hargreaves, Jour. of Conchology, 1910.
J.H.H.	—	J. H. Harman.
J.C.H.	—	J. C. Harrison.
W.C.H.	—	W. C. Hey, V.H.Y.; Jour. of Conchology, 1910; Naturalist, 1901, 1903.
T.H.	—	T. Hincks, V.H.Y.; British Hydroid Zoophytes, 1868.
J.I.	—	J. Irving, Jour. of Conchology, 1910; Naturalist, 1911, 1912, 1913, 1916, 1921, 1924.
G.J.	—	G. Jeffreys, V.H.Y.; Jour. of Conchology, 1910.
J.	—	Johnstone, Jour. of Conchology, 1910.
Lab.	—	Marine Laboratory, Robin Hood's Bay.
M.V.L.	—	M. V. Lebour, Naturalist, 1902; Jour. of Conchology, 1910.
L.	—	Leckenby, V.H.Y.
J.T.M.	—	J. T. Marshall, V.H.Y.; Jour. of Conchology, 1910.
F.W.M.	—	F. W. Mills, Naturalist, 1901.
E.M.M.	—	E. M. Morehouse, Naturalist, 1931, 1933.
P.	—	Parke, V.H.Y.
T.Pen.	---	T. Pennant, V.H.Y.
E.P.	---	E. Percival, Naturalist, 1922.
T.P.	---	T. Petch, V.H.Y.; Jour. of Conchology, 1910; Naturalist, 1903.
S.L.P.	---	S. L. Petty, V.H.Y.; Naturalist, 1897, 1900, 1901.
T.B.R.	—	T. B. Reynoldson, Lab., 1938.
T.Sh.	---	T. Sheppard, Naturalist, 1892, 1926.
D.S.	—	D. Solander, Natural History of Zoophytes, 1786.
J.S.	—	J. Stevenson, Naturalist, 1926, 1927, 1928, 1929.
T.S.	—	T. Stevenson, V.H.Y.; Naturalist, 1894, 1896.
S.	—	Strickland, Jour. of Conchology, 1910.
F.D.T.	—	F. D. Taylor, Naturalist, 1933.
J.V.T.	—	J. V. Thompson.
G.R.V.	—	G. R. Vine, Naturalist, 1892.
A.W.	—	A. Waller.
E.A.W.	—	E. A. Wallis
L.W.	—	Leo Walmsley.



A.T.W.	—	A. T. Watson, V.H.Y. ; Naturalist, 1912.
W.	—	Williamson, V.H.Y.
R.S.W.	—	R. S. Winpenny.
F.H.W.	—	F. H. Woods, Naturalist, 1910, 1911, 1912, 1913, 1914.
V.H.Y.	—	Victoria County History of Yorkshire.

Some records have no recorder or dates, others have a recorder but no dates, yet others have no locality given. In cases where a species is recorded several times in the same locality, the first record is given and the others noted only if they give additional information, otherwise they provide frequently information as to whether a species is rare or common.

When there are several records from different portions of the coast, they are all shown, as they give an indication of distribution. The records are arranged from north to south, and when a species is recorded at different places along the coast by the same recorder, only the dates are given and the recorder indicated at the last record of the sequence.

## Phylum PROTOZOA

### Class MASTIGOPHORA

#### Order DINOFLAGELLATA

#### Family PERIDINIIDAE

#### CERATIUM Schrank

*fusus* (Ehr.)—Robin Hood's Bay (Lab.).

*tripos* (Muell., O. F.)—Robin Hood's Bay.

### Class RHIZOPODA

#### Order FORAMINIFERA

#### Family MILIOLIDAE

#### Sub-family MILIOLININAE

#### BILOCULINA d'Orbigny

*depressa* (d'Orb.)—Scarborough (W.B. & G.J.) ; Bridlington (F.W.M.).

*ringens* Lam.—Scarborough (W.B. & G.J.).

#### SPIROCULINA d'Orbigny

*canaliculata* d'Orb.—Scarborough (G.J.).

*limbata* d'Orb.—Bridlington (F.W.M.).

*grata* Terq.—Bridlington (F.W.M.).

**MILIOLINA** Williamson*angulata* Will.—Scarborough (W.B.).*bicornis* (Walk. & Jac.)—Scarborough (W.B.); Bridlington (F.W.M.).*boueana* (d'Orb.)—Bridlington (V.H.Y.).*circularis* (Born.)—Bridlington (F.W.M.).*contorta* (d'Orb.)—Bridlington (F.W.M.).*oblonga* (Montagu)—Bridlington (F.W.M.).*seminulum* (L.)—Bridlington (F.W.M.).*trigonus* (Lam.)—Scarborough (W.B.); Bridlington (F.W.M.).**MASSILINA** Schlumberger*secans* (d'Orb.)—Bridlington (F.W.M.).

## Family TEXTULARIIDAE

**TEXTULARIA** Defrance*trochus* d'Orb.—Scarborough (G.J.).**VERNEUILINA** d'Orbigny*polystropha* (Reuss)—Scarborough (W. & G.J.); Bridlington (F.W.M.).**BULIMINA** d'Orbigny*aculeata* d'Orb.—Scarborough (W.).*elongata* d'Orb.—Bridlington (F.W.M.).*fusiformis* Will.—Bridlington (F.W.M.).*pupoides* d'Orb.—Scarborough (W.); Bridlington (F.W.M.).*marginata* d'Orb.—Scarborough (W.); Bridlington (F.W.M.).*subteres* Brady—Bridlington (F.W.M.).**BOLIVINA** d'Orbigny*robusta* Brady—Bridlington (F.W.M.).*textularioides* Reuss—Bridlington (F.W.M.).*pseudo-plicata* Her.-All. & Earl.—Bridlington (F.W.M.).**CASSIDULINA** d'Orbigny*laevigata* d'Orb.—Bridlington (F.W.M.).

## Family LAGENIDAE

**LAGENA** Walker & Boys*clavata* d'Orb.—Scarborough (W.B.).*globosa* (Montagu)—Scarborough (W.B.).*laevigata* (Reuss)—Bridlington (F.W.M.).*laevis* (Montagu)—Scarborough (W.B.).*lucida* (Will.)—Scarborough (W.B.); Bridlington (F.W.M.).*marginata* (Walk. & Boys)—Scarborough (W.B.).*orbignyana* Seg.—Bridlington (F.W.M.).*squamosa* (Montagu)—Scarborough (W.B.); Bridlington (F.W.M.).*melo* (d'Orb.)—Bridlington (F.W.M.).*sulcata* var. *interrupta* Will.—Scarborough (W.B.); Bridlington (F.W.M.).*williamsoni* (Alc.)—Bridlington (F.W.M.).

**VAGINULINA** d'Orbigny*linearis* (Montagu)—Scarborough (W.B.).**MARGINULINA** d'Orbigny*glabra* d'Orb.—Bridlington (F.W.M.).**CRISTELLARIA** Lamarck*rotulata* (Lam.)—Scarborough (W.B.).*crepidula* (Ficht. & Moll.)—Scarborough (W.B.).**POLYMORPHINA** d'Orbigny*williamsoni* Terq.—Scarborough (W.).*lanceolata* Reuss—Robin Hood's Bay (G.S.B.); Scarborough (W.).

## Family ROTALIIDAE

**DISCORBINA** Parker & Jones*globularis* (d'Orb.)—Bridlington (F.W.M.).*rosea* (d'Orb.)—Bridlington (F.W.M.).*wrightii* (Brady)—Bridlington (F.W.M.).**PLANORBULINA** d'Orbigny*mediterraneensis* d'Orb.—Scarborough (G.J.); Bridlington (F.W.M.).**TRUNCATULINA** d'Orbigny*lobatula* (Walk. & Jac.)—Bridlington (F.W.M.).**PULVINULINA** Parker & Jones*repanda* (Ficht. & Moll.)—Scarborough (W.B.).var. *concamerata* (Montagu)—Bridlington (F.W.M.).**ROTALIA** Lamarck*beccarii* (L.)—Bridlington (F.W.M.).

## Family NUMMULINIDAE

**NONIONINA** d'Orbigny*depressula* (Walk. & Jac.)—Bridlington (F.W.M.).*scapha* (Ficht. & Moll.)—Bridlington (F.W.M.).*umbilicata* (Montagu)—Scarborough (W.B.).**POLYSTOMELLA** Lamarck*crispa* (L.)—Bridlington (F.W.M.).*striato-punctata* (Ficht. & Moll.)—Bridlington (F.W.M.).**OPERCULINA** d'Orbigny*ammonoides* Gron.—Scarborough (W.B.).

## Class CILIOPHORA

## Order SPIROTRICHA

## Sub-order HETEROTRICHA

## Family TINTINNIDAE

**PTYCHOCYLIS** Brandt*urnula* Clap. & Lach.—Flamborough, 20 fm. (V.H.Y.).**EPIPLOCYLIS** Kofoed & Campbell*acuminata* (v. Dad)—Flamborough, 20 fm. (V.H.Y.).**TINTINNOPSIS** Stein*beroidea* Stein—Flamborough, very rare, 20 fm. (V.H.Y.).

## Phylum PORIFERA — SPONGES

## Order CALCAREA

## Family HOMOCOELIDAE

**LEUCOSOLENIA** Bowerbank

**botryoides** (Ell. & Sol.)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.B.); Cornelian Bay (J.I.); Filey, May, 1913 (F.H.W.).

**coriacea** (Montagu)—Robin Hood's Bay, Sept., 1937 (N.B.E.); Scarborough (W.B.).

## Family SYCETTIDAE

**SYCON** Risso

**ciliatum** (Fab.)—Robin Hood's Bay, Cornelian Bay, Sept., 1919 (J.I.); Filey, May, 1913 (F.H.W.).

## Family GRANTIIDAE

**GRANTIA** Fleming

**compressa** (Fab.)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, between tide marks, under stones and on weed, Feb., 1905 (J.H.H.); Filey, May, 1913 (F.H.W.).

**LEUCONIA** Grant

**nivea** (Grant)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.B.).

## Order TETRAXONIDA

## Sub-Order HOMOSCLEROPHORA

## Family PLAKINIDAE

**OSCARELLA** Vosmaer

**lobularis** (Schmidt)—Cornelian Bay, 1919 (J.I.).

## Sub-Order ASTROTETRAXONIDA

## Family TETILLIDAE

**TETILLA** Schmidt

**cranium** (Muell.)—Hayburn Wyke, 1891 (J.P.A.D.).

## Sub-Order SIGMATOSCLEROPHORA

## Family HAPLOSCLERIDAE

**HALICLONA** Bowerbank

**limbata** (Montagu)—Robin Hood's Bay (N.B.E.); Scarborough (W.B.).

**oculata** (Pall.)—In deep water, N. of Scarborough, 1926 (J.H.H., W.B.); Filey Brigg, Aug., 1920 (A.I.B.).

**ADOCIA** Gray

**cinerea** (Grant)—Scarborough (W.B.).

## Family DESMACIDONIDAE

**AMPHILECTUS** Vosmaer

**fucorum** (Esp.)—Scarborough (W.B.).

**MYXILLA** Schmidt*incrustans* (Johnst.)—Scarborough (W.B.).**HYMEDESMIA** Bowerbank*brondstedii* Burt.—Robin Hood's Bay (J.I.); Scarborough (W.B., J.S.B.).**OPHLITASPONGIA** Bowerbank*seriata* Bow.—Filey, March, 1922 (J.I.).

Family RASPAILIIDAE

**RASPAILIA** Gray*hispida* (Montagu)—Scarborough (W.B.).

Family AXINELLIDAE

**HALICHONDRIA** Fleming*panicea* (Pall.)—BREAD-CRUMB SPONGE. Sandsend, 1901 (M.V.L.); Whitby, 1899 (S.L.P.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, very common in rock pools on under side of rocks, low down on the beach (J.S., J.C.H.); Filey, May, 1913 (F.H.W.).*bowerbanki* Burt.—Scarborough (W.B.).**HYMENIACIDON** Bowerbank*perlevis* (Montagu)—Robin Hood's Bay, Sept., 1937 (N.B.E.).

Family CLAVULIDAE

**SUBERITES** Nardo*domuncula* (Olivi) (*Ficulina ficus* L.)—Known as *domuncula* when growing on shells used by hermit crabs and as *ficus* when growing alone. In deep water off Robin Hood's Bay, Hayburn Wyke and Scarborough on shells (*Dentalium*, *Astarte*, etc.) inhabited by *Eupagurus kröyeri*, 1926, 1928 (J.S.). Very common 25 miles off shore in 1928, but disappeared later in year, and again in 1929 (J.S.); Flamborough at 20 fm., usually grows to a size that makes its base on the shell look absurdly small. The shell is sometimes embedded (M.B.A.).**POLYMASTIA** Bowerbank*boletiforme* (Lam.)—Scarborough, usually in deep water, often brought in by trawlers and crabbing boats (J.S.).*mammillaris* (Muell.)—Scarborough (R.H., W.B.).**PSEUDOSUBERITES** Topsent*sulphureus* Bow.—Scarborough, the type specimen caused the stone it coated to appear as if it had been washed over with a thick infusion of milk of sulphur (J.S.B.).

Order EUCERATOSA

Family SPONGIIDAE

**DYSIDEA** Johnston*fragilis* (Montagu)—Robin Hood's Bay, Sept., 1937 (N.B.E.).**HALISARCA** Dujardin*dujardinii* Johnst.—Robin Hood's Bay, Scarborough, 1910 (J.I.).

## Phylum COELENTERATA

## Class HYDROZOA

## Order ATHECATA (ANTHOMEDUSA)

## Family TUBULARIIDAE

## TUBULARIA Linnaeus

**indivisa** L.—Robin Hood's Bay (J.C.H.); Scarborough, fine specimens taken in large quantities by trawlers off the coast (J.S.); Filey Brigg, May, 1903 (T.P.); Bridlington Bay and Flamborough, 20 fm. (M.B.A.).

**larynx** Ell. & Sol.—Common in deep water off Whitby and Robin Hood's Bay (J.S.); Scarborough, 1910 (J.I.); Flamborough, 20 fm. (M.B.A.).

**attenuata** Allm.—Filey, 1897, on **Flustra** and **Sertularia** (S.L.P.); Flamborough, 20 fm. (M.B.A.) (Records doubtful).

## Family CORYNIDAE

## CORYNE Gaertner

**sarsii** Lov.—Filey (T.H.); Bridlington Bay (M.B.A.).

## SARSIA Lesson

**eximia** (Allm.)—Whitby, 1868 (T.H.); Robin Hood's Bay, Scarborough (J.I.); Filey, 1903 (T.P.).

## ACTIGIA Stechow

**pusillum** (van Ben.)—Whitby, 1899, on **Hydrallmania** and **Laminaria** (T.P.); Robin Hood's Bay, Scarborough (J.C.H.); Filey in shrimp nets, May, 1903 (T.P.).

## Family ELEUTHERIIDAE

## ELEUTHERIA Quatrefages

**dichotoma** L.—Whitby, Filey Brigg (T.H.).

## Family CLAVIDAE

## CLAVA Gmelin

**multicornis** (Forsk.)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.); Filey Brigg, May, 1903 (T.P.).

## Family HYDRACTINIDAE

## HYDRACTINIA van Beneden

**echinata** (Flem.)—Robin Hood's Bay (J.H.H.); Scarborough, almost always on shells (**Buccinum**, **Natica**, etc.) inhabited by **Eupagurus bernhardus**, but occurs on other objects, e.g., drift wood (T.P.).

## PODOCORYNE Sars, M.

**carnea** Sars, M.—On fragments of shell off Flamborough (M.B.A.).

## Family BOUGAINVILLIDAE

## BIMERIA Wright, T. S.

**vestita** (Wright, T. S.)—Whitby (T.H.).

## ASELOMARIS Berrill

**arenosa** (Ald.)—Filey Brigg on undersides of stones and **Laminaria** roots (T.H.).

## Family PANDEIDAE

## AMPHINEMA Haeckel

*dinema* Per. & Les. (= *Perigonimus serpens*)—Filey Brigg (T.H.).

## Family EUDENDRIIDAE

## EUDENDRIUM Ehrenberg

*rameum* (Pall.)—Off Whitby and Robin Hood's Bay (J.S.).

*ramosum* (L.)—Whitby, 20 fm. (M.B.A.); found with *E. rameum*, but more common (J.S.).

## Order THECATA

## Family HALECIIDAE

## HALECIUM Oken

*muricatum* (Ell. & Sol.)—Scarborough (W.B.).

*beani* (Johnst.)—Whitby, 20-30 fm. (M.B.A.); Scarborough (W.B.).

*tenellum* (Hincks)—Filey (T.H.).

*halecium* L.—Not rare off coast (J.S.).

## Family LAFOEIDAE

## LAFOEA Lamouroux

*dumosa* (Flem.)—Not rare; in shallow water (J.S.); Filey Brigg, May, 1903 (T.P.); Gonosome as *Copina arcta* Dal., on *Hydrallmania falcata*, Whitby, 10-20 fm. (M.B.A.); Filey Brigg, May, 1903 (T.P.).

## Family CAMPANULINIDAE

## CAMPANULARIA Lamarck

*verticillata* L.—Whitby (M.B.A.); Flamborough, 30 fm. (V.H.Y.); occasionally brought up by trawlers (J.S.).

*volubilis* L.—Scarborough, rare on *Diphasia tamarisci* (W.B.); Filey, May, 1903, in shrimp nets (T.P.).

## CLYTIA Lamouroux

*johnstoni* (Ald.)—Robin Hood's Bay, March, 1897, on sponge, Scarborough (J.C.H.); Bridlington (V.H.Y.).

## OBELIA Péron &amp; Lesueur

*dichotoma* (L.)—Robin Hood's Bay under large stones at L.W. mark, Scarborough (J.C.H.).

*geniculata* (L.)—Whitby, 1899, on *Flustra*, *Laminaria* and *Maugeria* in quantity, 1903 (S.L.P.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, common in rock pools (J.S.); Filey, 1897, common on *Sertularia*, *Flustra* and *Laminaria* (T.P.).

*longissima* (Pall.)—Filey, May, 1903 (T.P.).

## GONOTHYRAEA Allman

*loveni* (Allm.)—Filey, May, 1903 (T.P.).

## LAOMEDEA Lamouroux

*gelatinosa* Pall.—Robin Hood's Bay, Scarborough (J.C.H.); Filey Brigg, May, 1903 (T.P.).

*flexuosa* Hincks—Robin Hood's Bay, Scarborough (J.I.); Filey Brigg, May, 1903 (T.P.).



**OPERCULARELLA** Hincks

*lacerata* (Johnst.)—Filey Brigg, May, 1903 (T.P.).

**CUSPIDELLA** Hincks

*humilis* Hincks—Whitby (T.H.) (doubtful record).

*costata* Hincks—Whitby, on *Syncoryne eximia* (T.H.) (doubtful record).

**CALYCELLA** Allman

*syringa* L.—Flamborough, 30 fm. (V.H.Y.).

## Family SERTULARIIDAE

**DIPHASIA** Agassiz, L.

*attenuata* (Hincks)—Whitby (T.H.), Filey, 1897, on *Flustra* and *Sertularia abietina* (S.L.P.).

*rosacea* L.—Scarborough, very common off coast generally attached to *Tubularia indivisa* (J.S.); Bridlington Bay (M.B.A.).

*tamarisca* (L.)—Scarborough, common in deep water (J.S.).

*fallax* (Johnst.)—Common off Whitby and Robin Hood's Bay (J.S.); Scarborough (W.B.); Filey, abundant (T.H.).

*pinnata* (Pall.)—Whitby, 20 fm. (M.B.A.).

**DYNAMENA** Lamouroux

*pumila* (L.)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.C.H.); Filey, uncommon on *Flustra*, common on *Hydrallmania*, 1900 (S.L.P.).

**SERTULARELLA** Gray

*polyzonias* (L.)—Off Whitby (P.); Scarborough, very rare (W.B.); off Flamborough (M.B.A.).

*rugosa* Gray—Filey Brigg, May, 1903 (T.P.).

*tenella* Ald.—Filey (T.H.).

**ABIETINARIA** Kirchenpauer

*abietina* (L.)—Robin Hood's Bay, Scarborough, Oct., 1904 (J.H.H.); Filey, in quantity among tidal refuse, 1910 (S.L.P.).

**HYDRALLMANIA** Hincks

*falcata* (L.)—Whitby, 1899, common (S.L.P.); Robin Hood's Bay (L.W.); Scarborough (J.I.); Filey, 1897 (S.L.P.); the commonest hydrozoan in the district from just below L.W. mark to many miles out to sea; trawlers bring up vast quantities (J.S.).

**SERTULARIA** Linnaeus

*operculata* (L.)—Whitby, 1899, on root of *Laminaria* (S.L.P.); Robin Hood's Bay (L.W.); near Scarborough on *Ahnfeltia plicata*, 1901, Filey, 1897, on *Flustra* (S.L.P.); Bridlington Bay (M.B.A.). Not rare in deep water and sometimes washed up after an easterly wind (J.S.).

*filicula* Ell. & Sol.—Hayburn Wyke, 1891 (J.P.A.D.); Scarborough (J.E. & D.S.); Filey, plentiful (T.Pen.); common in deep water, often washed up after storm (J.S.).

*cupressina* (L.)—Fine specimens constantly brought up by trawlers off Whitby, Robin Hood's Bay and Scarborough (J.S.); Filey, 1897 (S.L.P.).



*fusca* Johnst.—Scarborough (W.B.); Filey (T.H.).

*gracilis* Hass.—Whitby, 1899, on *Hydrallmania* and *Sertularia* (S.L.P.); Robin Hood's Bay (L.W.).

### THUJARIA Fleming

*articulata* (Pall.)—Scarborough, not common in deep water (J.S.); Bridlington Bay (M.B.A.).

*thuja* L.—BOTTLE-BRUSH. Robin Hood's Bay (J.H.H.); Scarborough (J.S.); Filey, 1897 (S.L.P.).

### Family PLUMULARIIDAE

### KIRCHENPAUERIA Jickeli

*pinnata* (L.)—Robin Hood's Bay (J.S.); Scarborough (W.B.); Filey, 1919 (S.L.P.); Bridlington Bay (M.B.A.).

### PLUMULARIA Lamarck

*setacea* (Ell. & Sol.)—Robin Hood's Bay, Cornelian Bay (J.I.); Filey, May, 1913 (F.H.W.).

### SCHIZOTRICHA Allman

*frutescens* (Ell. & Sol.)—Off Whitby, not uncommon in deep water (J.S.); Scarborough (J.E. & D.S.); Filey, thrown up after storms (T.H.).

### NEMERTESIA Lamouroux

*antennina* (L.)—Whitby (W.B., T.P.); Robin Hood's Bay, Scarborough (J.I.); Filey, 1897 (S.L.P.); Bridlington (M.B.A.); common in deep water, washed up after storms (J.S.).

*ramosa* (Lamour.)—Off Whitby (P.); Robin Hood's Bay (L.W.); common in deep water and often washed up after gales (J.S.).

### Family AGLAOPHENIIDAE

### AGLAOPHENIA Lamouroux

*pluma* (L.)—Filey (T.H.).

### Sub-class HYDROMEDUSAE

#### Order ANTHOMEDUSAE

#### Family CORYMORPHIDAE

### EUPHYSA Forbes

*aurata* Forbes—Robin Hood's Bay, June, 1922 (E.P.).

#### Family CORYNIDAE

### SARSIA Lesson

*tubulosa* (Sars, M.)—Robin Hood's Bay, Aug., 1922 (E.P.).

*eximia* (Allm.)—Robin Hood's Bay, Scarborough (J.I.); Filey, 1903 (T.P.).

### Family HYDRACTINIDAE

### PODOCORYNE Sars., M.

*carnea* (Sars, M.)—Robin Hood's Bay, June, 1922 (E.P.).

#### Order LEPTOMEDUSAE

#### Family LAODICIDAE

### LAODICEA Lesson

*undulata* (Forbes & Goods.)—Robin Hood's Bay, June, 1922 (E.P.).

## Family MITROCOMIDAE

**TIAROPSIS** Agassiz, L.*multicirrata* (Sars, M.)—Robin Hood's Bay, Aug., 1922 (E.P.).

## Family CAMPANULARIDAE

**PHIALIDIUM** Leuckart*hemisphericum* (L.)—Robin Hood's Bay, Aug., 1922 (E.P.).

## Family PHIALELLIDAE

**PHIALELLA** Browne*quadrata* (Forbes)—Robin Hood's Bay, Aug., 1922 (E.P.).

## Family EUTIMIDAE

**EUTIMA** McGrady*gracilis* (Forbes & Goods.)—Robin Hood's Bay, Aug., 1922 (E.P.).

## Family AEQUORIIDAE

**AEQUOREA** Péron & Lesueur

sp.—Scarborough (O.G.).

## Order TRACHYMEDUSAE

## Family RHOPALONEMATIDAE

**AGLANTHA** Haeckel*digitale* (Muell., O. F.) var. *rosea* (Forbes)—Whitby, 20 fm. (V.H.Y.); Robin Hood's Bay, June, 1922 (E.P.); Flamborough, 20 fm. (V.H.Y.).

## Class SCYPHOMEDUSAE

## Order STAUROMEDUSAE

## Family LUCERNARIIDAE

**LUCERNARIA** Mueller, O. F.*campanulata* Lamour.—Robin Hood's Bay; Scarborough, abundant in May, 1913 and 1914, re-appeared in same locality Oct., 1923, and again Oct., 1925 (J.I.).**HALICLYSTUS** Clark*octoradiatus* Clark—Robin Hood's Bay, Aug., 1913 (J.I.); Scarborough, July, 1913, and 1922 (A.I.B.).

## Order SEMAEOSTOMEAE

## Family AURELIIDAE

**AURELIA** Lamarck*aurita* (L.)—Robin Hood's Bay, Scarborough, on *Scyphistomas*, Sept., 1925, Filey, Sept., 1913 (J.I.).

## Class ANTHOZOA

## Sub-class ALCYONARIA

## Order ALCYONACEA

**SARCODICTYON** Forbes*catenata* Forbes—Whitby, 10-20 fm. (M.B.A.).

## Family ALCYONIDAE

## ALCYONIUM Linnaeus

**digitatum** L.—“DEAD MEN’S FINGERS”, “COW-PAPS”, Whitby, Sept., 1914 (F.H.W.); Robin Hood’s Bay (J.I.); Scarborough, 1894 (O.G., J.C.H.); Filey, May, 1913 (F.H.W.); common in deep water (J.S.).

**palmatum** Pall.—Robin Hood’s Bay (J.I.).

## Order PENNATULACEA

## Family VIRGULARIIDAE

## VIRGULARIA Lamarck

**mirabilis** Lam. var. **sessifolia**—Bridlington, 30 fm. (V.H.Y.).

## BALTICINA Gray

**finmarchica** Gray—Several specimens trawled 120 miles N.E. of Scarborough, Apl., 1931, and sent to the British Museum, were reported new to British waters (W.J.C.).

## Family PENNATULIDAE

## PENNATULA Linnaeus

**phosphorea** L.—Off Scarborough, Aug., 1928 (J.S.).

## Sub-class CERIANTHARIA

## Family CERIANTHIDAE

## CERIANTHUS Chiaje

sp.—Scarborough, 10 fm. (M.B.A.).

## Sub-class ACTINIARIA

## Family ACTINIIDAE

## ACTINIA Browne

**equina** L.—Whitby, Sept., 1914 (F.H.W.); Robin Hood’s Bay (J.C.H.); Scarborough, 1894 (O.G.); Filey, May, 1903 (T.P.).

## TEALIA Gosse

**felina** (L.) var. **coriacea**—Common all along coast. Whitby, 20 fm. (M.B.A.); Robin Hood’s Bay, Oct., 1912 (F.H.W.); Scarborough, locally known as “Scar-doodles” and used for bait, 1894 (O.G.); Filey Brigg, May, 1903 (T.P.).

var. **lofotensis**—Common in the trawl; old shells for attachment generally (J.S.); Filey, 1904 (J.).

## Family METRIDIIDAE

## METRIDIUM Oken

**senile** (L.) var. **dianthus**—Whitby, Sept., 1914 (F.H.W.); Robin Hood’s Bay, Oct., 1912, Sept., 1922 (F.H.W., A.I.B.); Scarborough, May, 1907, Sept., 1922 (J.I., A.I.B.); Filey, May, 1913 (F.H.W.).

## CALLIACTIS Verrill

**parasitica** (Couch)—Scarborough, on shells (J.S.).

## HORMATHIA Gosse

**digitata** (Muell., O. F.)—Scarborough, Sept., 1922 (A.I.B.).

## Family SAGARTIIDAE

**SAGARTIA** Gosse

*elegans* (Dalyell) var. *miniata*—Robin Hood's Bay, Aug., 1910 (J.I.); Filey, common (J.I.).

var. *venusta*—Cornelian Bay, June, 1907 (J.I.); Filey, May, 1914 (F.H.W.).

var. *nivea*—Scarborough, Nov., 1908 (J.I.).

*troglodytes* (Price)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1903 (J.H.H.); and var. *ornata*. 1922 (A.I.B.); Filey, May, 1913 (F. H. W.).

*anguicoma* (Price)—Whitby, 20 fm. (M.B.A.).

**CEREUS** Oken

*pedunculatus* (Penn.)—Robin Hood's Bay (L.W.).

## Class CTENOPHORA

**BOLINOPSIS** Agassiz, L.

*infundibulum* (Muell., O.F.)—Robin Hood's Bay, 1913 (J.C.H.); Scarborough, 1894 (O.G.); Flamborough, 20 fm. (M.B.A.).

**BEROE** Browne

*ovatus* Bosc.—Robin Hood's Bay, common during first half of 1928 (J.S.).

## Phylum PLATYHELMINTHES—FLATWORMS

## Class TURBELLARIA

## Order POLYCLADIDA

## Family LEPTOPLANIDAE

**LEPTOPLANA** Ehrenberg

*tremellaris* (Muell., O.F.)—Scarborough (J.I.).

## Family PSEUDOCERIDAE

**THYSANOZOOM** Grube

*brocchii* (Risso)—Scarborough, June, 1922.

## Family EURYLEPTIDAE

**CYCLOPORUS** Lang

*papillosus* (Sars in Jens.)—On *Botryllus*, Robin Hood's Bay, Aug., 1922, Scarborough, Aug., 1928 (J.S.).

## Class TREMATODA

**CERCARIA**

*purpureae* Lebour, Larva of *Perorchis acanthus* Nicoll—Robin Hood's Bay.

## Class CESTODA

**BOTHRIOCEPHALUS** Rudolphi

*scorpio* (Muell., O. F.)—Robin Hood's Bay from *Cottus scorpio*, 1938 (Lab.).

**Phylum NEMERTINEA**

## Class ANOPLA

## Order PALEONEMERTEA

## Family TUBULANIDAE

**TUBULANUS** Renier*annulatus* (Mont.)—Scarborough (A.T.W.).*superbus* (Koell)—Robin Hood's Bay (Lab.).**LINEUS** Sowerby*longissimus* (Gunn.)—BOOTLACE-WORM. Robin Hood's Bay (W.J.C.). About 5ft. of worm secured but remainder hidden in rock at Cloughton Wyke, Oct., 1937 (W.J.C.); Filey Brigg, May, 1903 (T.P.).*gesserensis* (Muell., O. F.)—Scarborough (J.I.); Filey, May, 1903 (T.P.).*ruber* (Muell., O. F.)—Robin Hood's Bay (Lab.).**EUBORLASIA** Vaillant*elizabethae* (McInt.)—Robin Hood's Bay, Scarborough, Sept., 1919 (A.J.B.).

## Class ENOPLA

## Order HOPLONEMERTEA

## Family EMPLECTONEMATIDAE

**EMPLECTONEMA** Stimpson*neesi* (Oerst.)—Robin Hood's Bay., Oct., 1912 (F.H.W.); Scarborough (J.I.).*gracile* (Johnst.)—Robin Hood's Bay (Lab.); Filey, Sept., 1913 (J.I.).

## Family PROSORHOCHMIDAE

**OERSTEDIA** Quatrefages*dorsalis* (Abild.)—Scarborough, 1913 (J.I.).

## Family AMPHIPORIDAE

**AMPHIPORUS** Ehrenberg*lactifloreus* (Johnst.)—Robin Hood's Bay (Lab.); Scarborough (J.I.); Filey Brigg, May, 1903 (T.P.).*pulcher* (Johnst.)—Scarborough, Aug., 1923 (J.I.).

## Family TETRASTEMMATIDAE

**TETRASTEMMA** Ehrenberg*melanocephalum* (Johnst.)—Robin Hood's Bay, Scarborough (J.I.).*vermiculus* (Quatref.)—Scarborough (J.I.).*candidum* (Muell., O.F.)—Scarborough (J.I.).

## Phylum ANNELIDA—RINGED WORMS

## Class POLYCHAETA—MARINE BRISTLE WORMS

## ERRANTIA

## Family APHRODITIDAE

## APHRODITA Linnaeus

*aculeata* L.—SEA MOUSE. Scarborough (J.C.H.).

## LEPIDONOTUS Leach

*squamatus* (L.)—Common; Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.I. & A.T.W.); Scarborough, Sept., 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.).

*clava* (Montagu)—Robin Hood's Bay (Lab.); Filey, Sept., 1913 (J.I.).

## HARMOTHOE Kinberg

*imbricata* (L.)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (W.J.C.); Scarborough, Sept., 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.).

*impar* Johnst.—Whitby, 20 fm. (M.B.A.); Scarborough (J.I.); Filey, May, 1913 (F.H.W.).

## SCALISETOSUS McIntosh

*pellucidus* (Ehlers)—Whitby, 20 fm. (M.B.A.).

*assimilis* (McInt.)—Robin Hood's Bay (Lab.).

## LAGISCA Malmgren

*extenuata* (Grube)—Whitby, Sept., 1914 (F.H.W.); Scarborough (J.I.); Filey, May, 1913 (F.H.W.).

## POLYNOË Savigny

*scolopendrina* (Sav.)—Robin Hood's Bay (Lab.).

## HALOSYDNA Kinberg

*gelatinosa* Sars, M.—Robin Hood's Bay (Lab.).

## STHENELAIS Kinberg

*boa* (Johnst.)—Robin Hood's Bay (L.W.); Filey Brigg, May, 1903 (T.P.).

*limicola* (Ehlers)—Flamborough, 20 fm. (M.B.A.).

## SIGALION Cuvier

*mathildae* Aud. & M.-Edw.—Flamborough, 20 fm. (M.B.A.).

## Family AMPHINOMIDAE

## SPINTHER Johnston

*miniaceus* Grube—Robin Hood's Bay, Aug., 1922 (E.P.).

## Family PHYLLODOCIDAE

## PHYLLODOCE Savigny

*laminosa* Sav.—Robin Hood's Bay (Lab.).

*lamelligera* Johnst.—Robin Hood's Bay, Cornelian Bay, 1922 (J.I.); Filey, 1928 (J.S.).

*maculata* (L.)—Robin Hood's Bay (L.W.); Scarborough harbour, April, 1920.

*paretti* (Blainv.)—Robin Hood's Bay (L.W.).

**EULALIA** Savigny*sanguinea* (Oerst.)—Scarborough (J.I.).*viridis* (Muell., O. F.)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.I.); Scarborough (A.T.W.); Filey, May, 1913 (F.H.W.).*bilineata* Johnst.—Scarborough (J.I.).*punctifera* Grube—Scarborough (J.I.).**ETEONE** Savigny*depressa* (Malm.) (= *flava* (Fabr.))—Scarborough, Oct., 1911, not hitherto found in British waters (McIntosh, Mon. Brit. Annelids, 1922-23, IV, 428. Ann. & Mag. Nat. Hist., July, 1912, Nat., (1912); Scarborough harbour, April & Sept., 1920 (A.I.B.).

## Family TOMOPTERIDAE

**TOMOPTERIS** Eschscholtz*heligolandica* Greef.—Bridlington, 20 fm. (V.H.Y.).*onisciformis* Eschs.—Flamborough, 30 fm. (V.H.Y.).

## Family HESIONIDAE

**KEFERSTEINIA** Quatrefages*cirrata* (Kef.)—Scarborough (J.I.).**CASTALIA** Savigny*punctata* (Muell., O. F.)—Scarborough (J.I.).

## Family SYLLIDAE

**SYLLIS** Savigny*gracilis* Grube—Scarborough (J.I.).*armillaris* Malm. — Scarborough (A.T.W.); Filey, May, 1913 (F.H.W.).*prolifera* Krohn.—Scarborough, Aug., 1923 (J.I.).**TRYPANOSYLLIS** Langerhans*zebra* Grube—Scarborough (J.I.).**AUTOLYTUS** Grube*pictus* (Ehlers)—Scarborough, with nurse stock (J.I.).*prolifera* (Muell., O. F.)—Scarborough (J.I.).

## Family NEREIDAE

**NEREIS** Linnaeus—RAGWORMS*pelagica* L.—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Scarborough (J.H.H.); Filey Brigg, May, 1903 (T.P.).*virens* Sars—Robin Hood's Bay, 1948 (Lab.).*diversicolor* (Muell., O. F.) Scarborough, Sept., 1911 (F.H.W.); April, 1920 (J.I.).*fucata* (Sav.)—Robin Hood's Bay (Lab.); Scarborough (J.H.); Filey Brigg, March, 1903 (T.P.). Not uncommon in deep water in shells occupied by hermit crabs.**PERINEREIS** Kinberg*cultrifera* (Grube)—Locally male *heteronereis* called "THIRSK". Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (A.T.W.); Filey, May, 1913 (F.H.W.).

**PLATYNEREIS** Kinberg*dumerilii* (Aud. & M.-Edw.)—Robin Hood's Bay, 1939 (Lab.).

Family NEPHTHYDIDAE

**NEPHTHYS** Cuvier*caeca* Fabr.—Robin Hood's Bay (A.T.W.); Scarborough, April, 1920 (J.I.); Filey Brigg, May, 1903 (T.P.).*homborgii* Lam.—WHITE CAT. Robin Hood's Bay, Scarborough (A.T.W.).

Family SPHAERODORIDAE

**EPHESIA** Rathke*gracilis* Rath.—Whitby, 20 fm. (M.B.A.).

Family GLYCERIDAE

**GLYCERA** Savigny*lapidium* (Quatref.)—Whitby, 20 fm. (M.B.A.); Scarborough, Oct., 1913 (J.I.); Filey Brigg (T.P.).**GONIADA** Audouin & Milne-Edwards*maculata* Oerst.—Bridlington Bay, as food of plaice and whiting (M.B.A.).**SEDENTARIA**

Family ARICIIDAE

**SCOLOPLOS** Blainville*armiger* (Muell., O. F.)—Scarborough, April, 1920 (J.I.).

Family SPIONIDAE

**SCOLELEPIS** Blainville*girardi* (Quatref.)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay and Scarborough (J.I.).**NERINE** Johnston*foliosa* (Aud. & M.-Edw.)—Robin Hood's Bay (L.W.); Filey Brigg, May, 1903 (T.P.); Flamborough, 30 fm., as food of plaice (M.B.A.).*cirratus* (Del. Chi.)—Robin Hood's Bay, 1948 (Lab.).**POLYDORA** Bosc*caeca* (Oerst.)—Scarborough, 1911 (A.T.W.).*ciliata* (Johnst.)—Scarborough (A.T.W.).

Family CIRRHATULIDAE

**AUDOUINIA** Quatrefages*tentaculata* (Mont.)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.); Filey Brigg, May, 1903 (T.P.).**CIRRHATULUS** Lamarck*cirratus* (Muell., O. F.)—Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.).

Family CHLORHAEMIDAE

**FLABELLIGERA** Sars*affinis* Sars—Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.).



**STYLARIOIDES** Delle Chiaje*plumosa* (Muell., O. F.).—Scarborough (J.I.).

Family OPHELIIDAE

**OPHELIA** Savigny*limacina* (Rathk.).—Filey, March, 1928, two specimens washed up by storm (J.S.); food for plaice throughout area (M.B.A.).**AMMOTRYPANE** Rathke*aulogaster* Rathk.—Bridlington, 30 fm. (V.H.Y.).

Family CAPITELLIDAE

**NOTOMASTUS** Sars*latericeus* Sars—Robin Hood's Bay, 1948 (Lab.).**CAPITELLA** Blainville*capitata* (Fabr.).—Robin Hood's Bay, Scarborough, Aug., 1920 (J.I.).

Family ARENICOLIDAE

**ARENICOLA** Lamarck*marina* (L.).—LUG-WORM. Robin Hood's Bay (J.C.H.); Scarborough (O.G. & F.H.W.); Filey Brigg, May, 1903 (T.P.).*ecaudata* Johnst.—Robin Hood's Bay, 1948 (Lab.).

Family MALDANIDAE

**PROCLYMENE** Arwidsson*mülleri* (Sars, M.).—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (Lab.); Scarborough, Sept., 1911 (F.H.W.); Filey (A.T.W.).

Family OWENIIDAE

**OWENIA** Delle Chiaje*fusiformis* Del. Chi.—Throughout off-shore area as food of plaice (M.B.A.).

Family SABELLARIIDAE

**SABELLARIA** Lamarck*spinulosa* Leuck.—Robin Hood's Bay (A.T.W.); Scarborough, Sept., 1911 (F.H.W.).*alveolata* (L.).—Robin Hood's Bay (L.W.); Scarborough to Withernsea, 10-20 fm. (M.B.A.).

Family AMPHICTENIDAE

**PECTINARIA** Lamarck*auricoma* (Muell., O. F.).—Bridlington, 30 fm. (V.H.Y.).*belgica* (Pall.).—Robin Hood's Bay (Lab.); Filey Brigg, May, 1903 (T.P.); Bridlington, 30 fm. (V.H.Y.).*koreni* (Malm.).—Fairly common throughout area, a food for nearly all species of edible fish (M.B.A.).

Family AMPHARETIDAE

**AMPHARETE** Malmgren*grubei* Malm.—Flamborough, 30 fm. (V.H.Y.); as food of plaice (M.B.A.).**AMPHICTEIS** Grube*gunneri* (Sars)—Flamborough, 30 fm. (V.H.Y.).

## Family TEREBELLIDAE

**AMPHITRITE** Mueller, O. F.

*gracilis* Grube—Scarborough, June, 1924 (J.I.); Filey, May, 1913 (F.H.W.).

*johnstoni* Malm.—Robin Hood' Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); 1922 (A.I.B.).

**LANICE** Malmgren

*conchilega* (Pall.)—SAND-MASON. Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.); Flamborough, 10-30 fm. (M.B.A.).

**POLYMNIA** Malmgren

*nebulosa* (Montagu)—Robin Hood's Bay, 1948 (Lab.).

**NICOLEA** Malmgren

*zostericola* (Oerst.)—Whitby, 20-30 fm. (M.B.A.); Robin Hood's Bay.

**THELEPUS** Leuckart

*cinnatus* (Fabr.)—Whitby, 20-30 fm. (M.B.A.).

**POLYCIRRUS** Grube

*aurantiacus* Grube—Scarborough, Sept., 1911 (J.I.); Filey, May, 1913 (F.H.W.).

## Family SABELLIDAE

**SABELLA** Linnaeus

*pavonina* (Sav.)—Scarborough (J.I.); tubes covered with *Alcyonium digitatum* frequent throughout the area (M.B.A.).

**POTAMILLA** Malmgren

*reniformis* (Muell., O. F.)—Scarborough (A.T.W.); Filey, May, 1933 (F.H.W.).

*torelli* Malm.—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.).

**DASYCHONE** Sars

*bombyx* (Daly.)—Whitby, 20 fm. (M.B.A.); Scarborough, Oct., 1912 (J.I.).

**AMPHIGLENA** Claparède

*mediterranea* (Clap.)—Scarborough, Aug., 1924 (J.I.).

**FABRICIA** Blainville

*sabella* (Ehr.)—Scarborough (A.T.W.).

**MYXICOLA** Koch

*infundibulum* (Montagu)—Scarborough, Aug., 1924 (J.I.).

## Family SERPULIDAE

**SERPULA** Linnaeus

*vermicularis* L.—Exceedingly abundant along coast (J.S.); Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.C.H.); Scarborough, Sept., 1911 (F.H.W.).

**HYDROIDES** Gunnerus

*norvegica* Gunn.—The PUMICE-STONE SPONGE, named locally by fishermen "Ross". A piece trawled off Whitby, May, 1927, measured 6in. x 9in. x 12in. (J.S.).

**POMATOCEROS** Phillippi

**triqueter** (L.).—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.C.H.); Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1913 (F.H.W.).

**FILOGRANA** Oken

**implexa** Berk.—Scarborough (A.I.B.); Filey Brigg, 1903 (T.P.).

**SPIRORBIS** Daudin

**borealis** Daud.—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.).

## Class OLIGOCHAETA

## Family TUBIFICIDAE

**CLITELLIO** Savigny

**arenarius** (Muell., O. F.).—Robin Hood's Bay (L.W.).

## Family ENCHYTRAEIDAE

**PACHYDRILUS** Claparède

**semifuscus** (Clap.).—Robin Hood's Bay, 1940, 40 specimens on under-side of small rocks embedded in pile of coarse sand (T.B.R.).

## Class HIRUDINEA

**PONTOBELLA** Leach

**muricata** (L.).—SKATE LEECH, parasitic on common skate (**Raia batis**) and taken from the fish in Scarborough fish-market, Nov., 1923, to Feb., 1934 (W.J.C. & J.S.).

**ABRANCHUS** Johansson

**microstomus** (Joh.).—Robin Hood's Bay from skin of **Blennius pholis**, sent to British Museum (Natural History) (Lab.).

## Phylum SIPUNCULOIDEA

## Family SIPUNCULIDAE

**PHASCOLOSOMA** Leuckart

**vulgare** (Blainv.).—Filey Brigg, May, 1903 (T.P.).

**minutum** Kef.—Scarborough, Sept., 1911 (F.H.W.).

**eremita** Sars—Whitby, 10 fm. (M.B.A.).

**PHASCOLION** Thiel

sp.—Scarborough, Aug., 1920 (A.I.B.).

## Phylum PRIAPULOIDEA

## Family PRIAPULIDAE

**PRIAPULUS** Lamarck

**caudatus** Lam.—Scarborough, March, 1932 (W.J.C.); very rare, one previous record, Leckenby, 1854.

## Phylum ARTHROPODA

## Class CRUSTACEA

## Sub-Class OSTRACODA

## Sub-Order PODOCOPA

## Family CYPRACEA

**ILYOCYPRIS** Brady & Norman

*biplicata* (Koch)—Filey, a single specimen; a freshwater form presumably washed into the sea down a stream.

## Family CYTHERACEA

**CYTHERIDEA** Jones

*elongata* Brady—Scarborough, not common off Yorkshire coast.

*papillosa* Bosq.—Off Scarborough (L.).

**EUCYTHERE** Brady

*declivis* (Norm.)—Scarborough, Cayton.

**KRITHE**, Brady, Crosskey & Robertson

*bartonensis* (Jones)—Off Scarborough (L.).

**CYTHERE** Mueller, O. F.

*lutea* (Muell., O. F.)—Robin Hood's Bay, Scarborough, Cayton, Gristhorpe, Filey—widespread and sometimes abundant.

*albomaculata* Baird—Filey Brigg (V.H.Y.), common.

*pulchella* Brady—Filey Brigg (V.H.Y.).

**HIRSCHMANNIA** Elofson

*viridis* (Muell., O. F.)—Gristhorpe.

**LEPTOCYTHERE** Sars

*confusa* (Brady & Norm.) (= *pellucida* Sars)—Robin Hood's Bay, Scarborough, Cayton, Gristhorpe, Filey, Speeton.

**XENOCYTHERE** Sars

*cuneiformis* (Brady)—Scarborough, Cayton, Gristhorpe.

**HEMICYTHERE** Sars

*villosa* (Sars)—Robin Hood's Bay, Scarborough, Cayton, Gristhorpe, Filey—abundant.

*convexa* (Baird)—Gristhorpe.

*angulata* (Sars)—Scarborough (G.S.B.).

**CYTHEREIS** Jones

*dunelmensis* (Norm.)—Off Scarborough (L.).

**CYTHERIDEIS** Jones

*subulata* Brady—Cayton, Gristhorpe.

**EUCYTHERURA** Mueller, G. W.—Two undetermined species from Cayton.**CYTHERURA** Sars

*clathrata* Sars—Scarborough.

*undata* Sars—Robin Hood's Bay, Scarborough, Cayton.

*cellulosa* (Norm.)—Robin Hood's Bay.

*concentrica* Brady, Crossk. & Rob.—Robin Hood's Bay (V.H.Y.).

**LOXOCONCHA** Sars*guttata* (Norm.)—Scarborough.*tamarindus* (Jones)—Robin Hood's Bay, Scarborough, Cayton, Gristhorpe, Filey, Speeton—abundant.*robertsoni* (Brady)—Scarborough, Cayton, Gristhorpe, Filey, Speeton—abundant.**CYTHEROPTERON** Sars*nodosum* Brady—Scarborough, Cayton, Gristhorpe, Filey, Speeton—abundant.*latissimum* (Norm.)—Scarborough, Cayton, Gristhorpe, Filey.**BYTHOCYTHERE** Sars*constricta* Sars—Scarborough, Cayton, Filey.**PSEUDOCYTHERE** Sars*caudata* Sars—Red Cliff, 30 fm. (V.H.Y.).**XESTOLEBERIS** Sars*depressa* Sars—Robin Hood's Bay.*aurantia* (Baird)—Robin Hood's Bay, Filey Brigg (V.H.Y.).**TRACHYLEBERIS** Brady*angulata* (Sars)—Scarborough, Filey.*crenulata* (Sars)—Gristhorpe.**PARACYTHEROIS** Mueller, G. W.—An undetermined species not uncommon at Scarborough, Gristhorpe and Speeton.**PARADOXOSTOMA** Fischer*normani* Brady—Robin Hood's Bay, 30 fm. (V.H.Y.), Scarborough, Gristhorpe, Filey.*bradyi* Sars (= *obliquum* Brady)—Robin Hood's Bay.*hibernicum* Brady—Filey Brigg (V.H.Y.).

## Sub-Class COPEPODA

## Order EUCOPEPODA

## Sub-Order CALANOIDA

## Family CENTROPAGIDAE

**ISIAS** Boeck*clavipes* Boeck—Robin Hood's Bay, 35 fm. (V.H.Y.).

## Family TEMORIDAE

**TEMORA** Baird*longicornis* (Muell., O. F.)—Filey Brigg, tidal pools (V.H.Y.).

## Family PONTELLIDAE

**ANOMALOCERCA** Templeton*patersoni* Templ.—Off Yorkshire coast (V.H.Y.).

## Family PARAPONTELLIDAE

**PARAPONTELLA** Brady*brevicornis* (Lubb.)—Bridlington Bay (V.H.Y.).

## Sub-Order HARPACTICOIDA

## Family HARPACTICIDAE

**HARPACTICUS** Dana*chelifer* (Muell., O. F.)—Filey Brigg, tidal pools (V.H.Y.).**ZAUS***spinatus* Goods.—Filey Brigg, tidal pools (V.H.Y.).*goodsiri* Brady—Robin Hood's Bay, 35 fm., Bridlington Bay, tow-netted (V.H.Y.).

## Family TISBIIDAE

**TISBE** Lilljeborg*furcata* (Baird)—Filey Brigg, tidal pools (V.H.Y.).

## Family TEGASTIDAE

**AMYMONE** Claus*sphaerica* Claus—Robin Hood's Bay, 35 fm., Red Cliff (V.H.Y.).

## Family THALESTRIDAE

**THALESTRIS** Claus*longimana* Claus—Off Scarborough (V.H.Y.).**RHYNCHOTHALESTRIS** Sars*rufocincta* (Norm.)—Red Cliff; 35 fm. (V.H.Y.).**DACTYLOPODIA** Lang*neglecta* (Sars)—Off Robin Hood's Bay, Filey Brigg, tidal pools (V.H.Y.).**AMPHIARCUS** Sars*tenuiremis* (Brady & Rob.)—Robin Hood's Bay, 30-35 fm. (V.H.Y.).**AMPHIASCOPSIS** Gurney*thalestroides* (Sars)—Off Red Cliff (V.H.Y.).

## Family DIOSACCIDAE

**STENHALIA** Boeck*longicaudata* Boeck—Robin Hood's Bay, 25-35 fm. (V.H.Y.).**BULBAMPHIASCUS** Lang*imus* (Brady)—Robin Hood's Bay, 25-35 fm. (V.H.Y.).

## Family LAOPHONTIDAE

**HETEROLAOPHONTE** Lang*strömi* (Baird)—Filey Brigg, tidal pools (V.H.Y.).**LAOPHONTE** Philippi*thoracica* Boeck—Robin Hood's Bay, 10-35 fm. (V.H.Y.).

## Family CLETODIDAE

**RHIZOTHRIX** Brady & Robertson*curvata* Brady & Rob.—Off Robin Hood's Bay (V.H.Y.).

## Family TACHIDIIDAE

**DANIELSSENIA** Boeck*fusiformis* (Brady & Rob.)—Red Cliff, 35 fm. (V.H.Y.).

## Sub-Order CYCLOPOIDA

## Family OITHONIDAE

**OITHONA** Baird

*similis* Claus—Off Whitby and Bridlington (V.H.Y.).

## Family CYCLOPIDAE

**HALICYCLOPS** Norman

*christianensis* Boeck—Filey Brigg, tidal pools (V.H.Y.).

## Family ASCOMYZONTIDAE

**DERMATOMYZON** Claus

*nigripes* Brady—Off Robin Hood's Bay and Scarborough.

**COLLOCHERES** Canu

*gracilicauda* (Brady)—Robin Hood's Bay, 13 fm. (V.H.Y.).

**ACONTIOPHORUS** Brady

*scutatus* (Brady & Rob.)—Robin Hood's Bay, 35 fm. (V.H.Y.).

*ornatus* Brady & Rob.—Robin Hood's Bay (V.H.Y.); Scarborough.

## Family DYSPONTIIDAE

**DYSPONTIUS** Thorell

*striatus* Thor.—Robin Hood's Bay, 35 fm. (V.H.Y.).

## Family LICHOMOLGIDAE

**LICHOMOLGUS** Thorell

*fucicolum* Brady—Robin Hood's Bay, Scarborough, 35 fm. (V.H.Y.).

*thorelli* Brady & Rob.—Robin Hood's Bay, 35 fm. (V.H.Y.).

**HERMANNELLA** Canu

*arenicola* (Brady)—Robin Hood's Bay, 30 fm. (V.H.Y.).

**PSEUDANTHESSIUS** Claus

*liber* (Brady)—Off Scarborough (V.H.Y.).

## Sub-Order CALIGOIDA

## Family CALIGIDAE

**CALIGUS** Mueller, O. F.

*rapax* Milne-Edw.—Whitby on cod (V.H.Y.); Robin Hood's Bay (L.W.).

*curtus* Muell., O. F.—Whitby on cod (V.H.Y.); Robin Hood's Bay (L.W.).

*diaphanus* Nordm.—Robin Hood's Bay (L.W.).

**LEPEOPHTHEIRUS** Nordmann

*salmonis* (Kroey.)—Whitby on salmon (V.H.Y.).

## Sub-Order LERNAEOIDA

## Family LERNAEIDAE

**LERNAEOCERA** Blainville

*branchialis* L.—Robin Hood's Bay (L.W.).

## Family LERNAEOPODIDAE

**CLAVELLA** Oken

*uncinata* Cuv.—Robin Hood's Bay (L.W.).

## Sub-Class CIRRIPIEDIA

## Order THORACICA

## Family SCALPELLIDAE

**SCALPELLUM** Leach

**scalpellum** (L.)—Scarborough, local in deep water, generally attached to **Tubularia** or **Hydrallmania**—sent to British Museum for identification, 1928 (J.S.).

## Family LEPADIDAE

**LEPAS** Linnaeus

**anatifera** (L.)—GOOSE BARNACLE. Robin Hood's Bay (J.C.H.); Scarborough, autumn 1894 was remarkable for the quantities of ship and goose barnacles that were washed up in great masses attached to all manner of flotsam and jetsam (wood, cork, etc.) (O.G.).

## Family VERRUCIDAE

**VERRUCA** Schumacher

**stroemia** (Muell., O. F.)—Robin Hood's Bay.

## Family CHTHAMALIDAE

**CHTHAMALUS** Ranzani

**stellatus** (Poli)—Filey, May, 1903 (T.P.).

## Family BALANIDAE

**BALANUS** Da Costa

**tintinnabulum** (L.)—Scarborough, specimen sent to British Museum 1888 (T.D.A.C.).

**porcatus** Da Costa—Robin Hood's Bay (L.W.); common in deep water, growing to a good size. "Barnacle Bank" 45 mls. N.E. of Scarborough is particularly affected with them.

**balanoides** L.—ACORN BARNACLE. Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough, exceedingly abundant on the littoral, less abundant in deep water (J.C.H.).

## Order RHIZOCEPHALA

## Family PELTOGASTRIDAE

**SACCULINA** Thompson

**carcini** Thomps.—Scarborough, common on **Portunus marmoreus** in sandy bays, particularly affecting females (J.S.).

**PELTGASTER** Rathke

**pagari** Rathke—Scarborough, Sept., 1923, parasitic on **Eupagurus bernhardus** (R.S.W.).

## Sub-Class MALACOSTRACA

## Order CUMACEA

## Family CUMIDAE

**BODOTRIA** Goodsir

**scorpioides** (Montagu)—Off Robin Hood's Bay (V.H.Y.).



## Family LEUCONIDAE

**EUDORELLOPSIS** Sars

**deformis** (Kroey.)—Red Cliff, 40 fm. (V.H.Y.).

## Order ISOPODA

## Sub-Order FLABELLIFERA

## Family AEGIDAE

**AEGA** Leach

**psora** (L.)—Scarborough (W.B.).

## Family LIMNORIIDAE

**LIMNORIA** Leach

**lignorum** (Rathke)—THE GRIBBLE. Scarborough in floating wood (J.I.).

## Sub-Order VALVIFERA

## Family IDOTEIDAE

**IDOTHEA** Fabricius

**baltica** (Pall.)—Whitby, 1914 (F.H.W.); Robin Hood's Bay, Scarborough (J.I.); Filey (V.H.Y.); common all along the coast (J.I.).

**pelagica** (Leach)—Robin Hood's Bay (L.W.).

**emarginata** (Fabr.)—Filey (V.H.Y.).

## Family ARCTURIDAE

**ASTACILLA** Cordiner

**longicornis** (Sow.)—Robin Hood's Bay (L.W.); Scarborough (J.I.); not common in deep water (J.S.).

## Sub-Order ASELOTOTA

## Family JANIRIDAE

**JANIRA** Leach

**maculosa** Leach—Filey, May, 1903 (T.P.).

**JAERA** Leach

**marina** (Fabr.)—Scarborough (J.I.); Filey, May, 1903 (T.P.).

## Sub-Order ONISCOIDEA

## Family LIGIIDAE

**LIGIA** Fabricius

**oceanica** (L.)—SEA-SLATER. Robin Hood's Bay (O.G.); Cloughton Wyke, Aug., 1914, Scarborough about high water mark (W.J.C.); Cayton Bay, 1896 (O.G.); Filey, May, 1903 (T.P.).

## Family CRYPTONISCIDAE

**CRYPTOTHRIX** Dana

**balani** (Spence Bate)—Robin Hood's Bay, in **B. balanoides** (Lab.).

## Order AMPHIPODA

## Sub-Order GAMMARIDEA

## Family AMPELISCIDAE

**AMPELISCA** Kroeyer*typica* (Bate)—Whitby (V.H.Y.).

## Family HAUSTORIIDAE

**HAUSTORIUS** Mueller, O. F.*arenarius* (Slabb.)—Whitby (V.H.Y.); Robin Hood's Bay (Lab.).

## Family GAMMARIDAE—SAND SHRIMPS

**GAMMARELLUS** Herbst*homari* (Fabr.)—Whitby (V.H.Y.); Robin Hood's Bay (Lab.); Scarborough between tide marks, identified at British Museum; Filey, May, 1903 (T.P.).**GAMMARUS** Fabricius*locusta* (L.)—Whitby (V.H.Y.); Robin Hood's Bay, Scarborough (J.I.).**MARINOGAMMARUS** Schillenberg*marinus* (Leach)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.); Filey, May, 1903 (T.P.).

## Family DEXAMINIDAE

**DEXAMINE** Leach*spinosa* (Montagu)—Scarborough (J.I.); Filey (V.H.Y.).

## Family TALITRIDAE

**TALITRUS** Latreille*saltator* (Montagu)—SAND-HOPPER. Hayburn Wyke, July, 1891 (J.P.A.D.); Scarborough, 1896 (O.G.); Filey Brigg (V.H.Y.).**ORCHESTIA** Leach*gammarella* (Pall.)—SHORE HOPPER. Robin Hood's Bay (Lab.); Scarborough (J.I.); Filey, May, 1913 (F.H.W.).

## Family AMPHITHOIDAE

**AMPHITHOË** Leach*rubricata* (Montagu)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (Lab.); Scarborough (J.I.); Filey, May, 1903 (T.P.).

## Family JASSIDAE

**JASSA** Leach*falcata* (Montagu)—Scarborough, Feb., 1915 (J.I.).

## Family COROPHIIDAE

**COROPHIUM***volutata* (Pall.)—Filey, May, 1903 (T.P.).**ERICHTHONIUS** Milne Edwards*brasiliensis* (Dana)—Scarborough (J.I.).

## Family PODOCERIDAE

**PODOCERUS** Leach*variegatus* Leach—Scarborough (J.I.); Filey (V.H.Y.).

## Sub-Order HYPERIIDEA

## Family HYPERIIDAE

**HYPERIA** Desmarest

*galba* Montagu—Whitby (V.H.Y.).

**PARATHEMISTO** Boeck

*oblivia* (Kroey.)—Robin Hood's Bay (L.W.).

## Sub-Order CAPRELLIDEA

## Family CAPRELLIDAE—SKELETON SHRIMPS

**PSEUDOPROTELLA** Mayer

*phasma* (Montagu)—Scarborough, South Bay, Feb., 1915 (J.I.).

**CAPRELLA** Lamarck

*acanthifera* Leach—Scarborough (J.I.), also var. *typica*.

*linearis* (L.)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.).

*tuberculata* Bate & West.—Scarborough (J.I.); Filey, May, 1913 (F.H.W.).

## Order SCHIZOPODA (=MYSIDACEA)

**PRAUNUS** Leach

*flexuosus* (Muell., O. F.)—OPOSSUM or CHAMELEON SHRIMP. Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.); common in rock pools in summer, retiring to deep water in winter; largest caught by shrimpers.

**PARAMYSIS** Czerniavsky—GHOST SHRIMPS

*arenosa* (Sars)—Robin Hood's Bay, 1938 (N.B.E.).

## Order DECAPODA

## Sub-Order NATANTIA

## Tribe CARIDEA

## Family PANDALIDAE

**PANDALUS** Leach

*montagui* Leach—AESOP PRAWN. Very abundant in deep water and not uncommon in rock pools during the summer. It has a peculiar habit of clinging on the outside of a trawl net in hundreds until the latter is hanging over the deck when they drop off and soon die (J.S.).

**PANDALINA** Calman

*brevirostris* (Rathke)—Robin Hood's Bay—a deep water form not uncommon from 15-40fm. (J.S.).

## Family HIPPOLYTIDAE

**HIPPOLYTE** Leach

*varians* Leach—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (Lab.); Scarborough (A.T.W.); abundant in rock pools in summer and down to 35 fm. (J.S.); Filey, May, 1913 (F.H.W.).

**SPIRONTOCARIS** Bate

**spinus** (Sow.)—Off Whitby, Sept., 1928, not uncommon in 25-30 fm. (J.S.).

**THORALUS** (Holthuis)

**cranchii** (Leach)—Robin Hood's Bay (L.W.); Scarborough, very abundant down to 35 fm. (J.S.); Filey, May, 1913 (F.H.W.).

**EUALUS** Thallwitz

**pusiolus** (Kroey.)—Scarborough, April, 1935 (T.B.), identified by British Museum.

## Family PALAEMONIDAE

**LEANDER** Desmarest

**serratus** (Penn.)—PRAWN. Scarborough (J.I.); very few and far between, 1896 (O.G.).

## Family CRANGONIDAE

**CRANGON** Fabricius

**vulgaris** L.—SHRIMP. Robin Hood's Bay (Lab.); Hayburn Wyke, 1891 (J.A.P.D.); Filey, May, 1903 (T.P.). "It seems to be getting scarcer every year on the Yorkshire coast" 1896 (O.G.). "Exceedingly abundant in our sandy bays during summer" 1926 (J.S.).

**PHILOCHERAS** Stebbing

**trispinosus** (Hailst.)—Scarborough, Filey (J.I.); abundant in sandy places with *C. vulgaris* (J.S.).

## Sub-Order REPANTIA

## Tribe PALINURA

## Family PALINURIDAE

**PALINURUS** Fabricius

**elephas** (Fabr.)—ROCK LOBSTER, CRAWFISH. Once taken in trawl off Flamborough (V.H.Y.).

## Tribe ASTACURA

## Family NEPHROPSIDAE

**NEPHROPS** Leach

**norvegicus** (L.)—NORWEGIAN LOBSTER, DUBLIN BAY PRAWN. Brought to Whitby in lobster trap, April, 1894 (T.S.).

**HOMARUS** Fabricius

**gammarus** Milne-Edw.—LOBSTER. Whitby, 1896 (T.S.); Robin Hood's Bay, Scarborough; important fishery in summer; abundant in Laminarian zone; large specimens frequently trawled off coast, an albino landed in 1931.

## Tribe ANOMURA

## Family GALATHEIDAE

**GALATHEA** Fabricius—SQUAT LOBSTERS.

**nexa** Embl.—Off Whitby, June, 1926 (J.S.); Scarborough (J.I.); abundant in Horse-Shoe Hole, South Bay at low (spring) tides; common down to 50 fm. (J.S.).

**squamifera** Leach—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough (J.H.H.); Filey, May, 1913 (F.H.W.); common low down on the littoral (J.H.H.).

**intermedia** Lillj.—Robin Hood's Bay, 1938 (N.B.E.).

**strigosa** (L.)—SPINY SQUAT LOBSTER. Whitby, 1926 (T.S.); Robin Hood's Bay, Sept., 1921 (J.I.); Scarborough, 1896 (O.G.); Filey, 1903 (T.P.); generally taken in crab pots in the Laminarian zone.

### MUNIDA Leach

**rugosa** (Fabr.)—Locally a deep water form, abundant 6 miles off Robin Hood's Bay and Hayburn Wyke in 25-30fm., spawning in late spring and early summer (J.S.), off Scarborough Sept., 1926 (J.S.).

### Family PORCELLANIDAE

### PORCELLANA Lamarck—PORCELAIN CRABS

**platycheles** (Penn.)—Filey, Sept., 1913, very rare (W.J.C.).

**longicornis** (L.)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Scarborough (J.H.H.); abundant at all zones down to 50 fm. (J.S.); Filey, May, 1913 (F.H.W.).

### Tribe THALASSINIDEA

### Family CALLIANASSIDAE

### UPOGEBIA Leach

**stellata** (Montagu)—Off Robin Hood's Bay, Oct., 1928 (J.S.).

### Tribe PAGURIDEA

### Family PAGURIDAE

### EUPAGURUS Brandt

**bernhardus** (L.)—COMMON HERMIT CRAB. Abundant at all zones (O.G.); Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough, 1896 (O.G.); Filey, May, 1903 (T.P.).

**pubescens** (Kroey.)—Scarborough, "A deep sea form in which young specimens inhabit the shell (*Turritella*) which later becomes covered and absorbed by a sponge (*Suberites domuncula*)."  
Thus full grown specimens are always found in this sponge—not uncommon from 30-50 fm. (J.S.). Specimens identified by British Museum.

### ANAPAGURUS Henderson

**laevis** (Thomps.)—Off Whitby, Robin Hood's Bay and Hayburn Wyke in 20-30 fm. (J.S.).

**hyndmanni** (Thomps.)—Occasionally in about 30 fm. (J.S.).

### Family LITHODIDAE

### LITHODES Latreille

**maia** (L.)—NORTHERN STONE CRAB, locally "KING CRAB" (O.G.). Scarborough, Feb., 1928, in deep water, occasionally stranded alive on rocks (J.S.).

## Tribe BRACHYURA

## Family PORTUNIDAE—SWIMMING or FIDDLER CRABS

**PORTUNUS** Leach (= **MACROPIPUS** Prestandrea)

**puber** (L.)—VELVET CRAB. Robin Hood's Bay, Hayburn Wyke (J.S.); Scarborough, 1896 (O.G.); rare, on Yorkshire coast, 1928 (J.S.).

**pusillus** Leach—Off Robin Hood's Bay and Scarborough common in 1928 and forms chief food of Wolf-fish and others (J.S.).

**marmoreus** Leach—MARBLED SWIMMING CRAB. Common in sandy bays, taken in large numbers during summer by both coble-trawls and shrimpers; less common on the "inside" trawling grounds but specimens are usually finely coloured and frequently bear *Sacculina carcini*.

**depurator** (L.)—Whitby fishing grounds, Oct., 1926 (J.S.); Filey, May, 1924 (J.I.); Bridlington—number washed up 1902 (W.C.H.); occasional in deep water where females are more common than males (J.S.).

**PORTUNUS** Leach

**latipes** (Penn.)—Filey, 1914, rare (W.J.C.).

**CARCINUS** Leach (= **CARCINIDES** Rathburn)

**maenas** (L.)—SHORE CRAB, locally "DOG CRAB". Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, 1912 (J.I.); Scarborough, 1896 (O.G.); Filey, May, 1903 (T.P.); common on littoral and down to 5 fm.

## Family PIRIMELIDAE

**PIRIMELA** Leach

**denticulata** (Montagu)—Whitby, Sept., 1914 (F.H.W.); Scarborough, May, 1914, females rare, all specimens taken in rock pools, generally in *Halidrys* (J.I.); Filey, May, 1913 (F.H.W.).

## Family CANCRIDAE

**CANCER** Linnaeus

**pagurus** L.—EDIBLE CRAB. Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough (J.C.H.); Filey, May, 1913 (F.H.W.); abundant everywhere from 0-35 fm. (J.C.H.).

**ATELECYCLUS** Leach

**rotundatus** Olivi—Scarborough, trawl May, 1913 (W.D.B.); abundant locally on trawling grounds 15-30 fm., females very rare, burrow in sand with only the antennae and tips of the claws showing, 1929 (J.S.); in stomach of cod caught near Scarborough, Jan., 1934; several landed among "Queen oysters" during 1935 (W.J.C.).

## Family CORYSTIDAE

**CORYSTES** Latreille

**cassivelaunus** (Penn.)—MASKED CRAB. Robin Hood's Bay (Lab); Scarborough, Filey, May, 1924 (J.C.H.); abundant on sandy bottom, less common on trawling grounds

## Family XANTHIDAE

**PILUMNUS** Leach

**hirtellus** (L.)—Robin Hood's Bay, Laminarian zone, Sept., 1921 (J.I.); Scarborough, White Nab Hole, South Bay; Filey, Sept., 1913 (W.J.C.).

## Family PINNOTHERIDAE

**PINNOTHERES** Latreille

**pisum** (Penn.)—PEA CRAB. Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Filey, Sept., 1913 (J.I.); rare, off Flamborough in *Modiolus*, 1926 (J.S.).

## Family LEUCOSIIDAE

**EBALIA** Leach

**tuberosa** (Penn.)—Local, about 30 fm., often found in the "false bottom" of frayed rope in a trawl net; occasionally taken off Hayburn Wyke (J.S.).

**cranchii** Leach—Off Robin Hood's Bay, rare; male with large *Alcyonidium* on its caparace off Hayburn Wyke, Nov., 1927 (J.S.).

**tumefacta** (Montagu)—Off Robin Hood's Bay, Aug., 1928, rare (J.S.).

## Family MAIIDAE

**MAIA** Lamarck

**squinado** (Rond.)—THORNBACK CRAB. Robin Hood's Bay, Oct., 1912 (J.I.); Hayburn Wyke, July, 1891, between Cloughton Wyke and Scarborough, 1889, Filey Brigg, Sept., 1889 (J.P.A.D.). (Stevenson doubts records of this species in the Victoria History of Yorkshire, not having seen one himself but, from the reports of the "crabbers", believes it may be found here, 1929 (J.S.).)

**EURYNOME** Leach

**aspera** (Penn.)—Off Whitby, Dec., 1928, female, off Robin Hood's Bay, May, 1928, female with eggs, Dec., 1928, female, off Hayburn Wyke, Aug., 1928, immature female, off Scarborough, 7 miles, July, 1928, male. Rare, lives in company with *Ebalia tuberosa* (J.S.).

**HYAS** Leach

**coarctatus** Leach—Scarborough, common in deep water, occasional in rock pools (W.J.C.).

**araneus** (L.)—SPIDER CRAB. Common down to 30 fm., Robin Hood's Bay, Scarborough, 1896 (O.G.); Filey, May, 1903 (T.P.); a crab-pot pest.

**INACHUS** Fabricius

**dorsettensis** (Penn.)—SCORPION SPIDER CRAB. Scarborough, very common in deep water (J.S.).

**dorhynchus** (Leach)—Scarborough, Oct., 1944 (J.H.H.); occasionally in rock pools and crab pots (J.S.).

**MACROPODIA** Leach

**longirostris** (Fabr.)—Scarborough (W.J.C.).

**rostrata** (L.)—LONG-LEGGED SPIDER CRAB. Robin Hood's Bay (L.W.); Scarborough, 1896 (O.G.); very common in deep water (W.J.C.).



**ACHAEUS** Leach

**cranchii** Leach—Filey, Sept., 1913, very rare (W.).

## Class ARACHNIDA

## Sub-Class PYCNOGONIDA

## Family PYCNOGONIDAE

**PYCNOGONUM** Bruennich

**littorale** (Stroem.)—SEA-SPIDER. Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough (J.H.H.); Filey, May, 1903 (T.P.).

## Family PHOXICHILIDAE

**ENDEIS** Philippi

**spinosus** (Montagu)—Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough (J.H.H.); Filey, May, 1903 (T.P.).

## Family PHOXICHILIDIIDAE

**PHOXICHILIDIUM** Milne-Edwards

**femoratum** (Rathke)—Robin Hood's Bay, occasionally in trawl nets, Scarborough (W.J.C.); Filey, May, 1903 (T.P.).

## Family NYMPHONIDAE

**NYMPHON** Fabricius

**gracilis** Leach—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Cornelian Bay, 1908 (H.).

## Phylum MOLLUSCA

## Class LORICATA

## Order LEPIDOPLEURIDA

## Family LEPIDOPLEURIDAE

**LEPIDOPLEURUS** Risso

**asellus** (Gmel.)—Whitby, Sept., 1914; Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, Cayton Bay, 1910 (J.P.A.D.); off Scarborough, 1910 (J.A.H.).

**cancellatus** (Sow.)—Scarborough (W.B.).

**HANLEYA** Gray

**hanleyi** (Bean)—Scarborough on stones and shells (W.B.); North Bay, one specimen (J.A.H.).

## Order CHITONIDA

## Family LEPIDochitonidae

**TONICELLA** Carpenter

**marmorea** (Fab.)—Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, 1910, 30 fm. (G.S.B.). Scarborough on stones, shells and seaweeds in Laminarian zone (W.B.).

**rubra** (L.)—Sandsend, 1901, at roots of Laminaria (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.).

**LEPIDOCHITONA** Gray

**cinereus** (L.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, July, 1891 (J.P.A.D.); Scarborough, 1903 (W.C.H.); Filey Brigg, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

**CALLOCHITON** Gray

**achatinus** (Brown)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1910 (W.B.).

## Family CRYPTOPLACIDAE

**ACANTHOCHITONA** Gray

**crinitus** (Penn.)—CHITON. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, 1891 (J.P.A.D.); Scarborough, 1903 (W.C.H.); Filey, May, 1903 (T.P.).

## Class LAMELLIBRANCHIA

## Sub-class PRIONODESMACEA

## Order PROTOBRANCHIA

## Family NUCULIDAE

**NUCULA** Lamarck

**nucleus** (L.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); off Scarborough (M.B.A.); Bridlington (F.H.W.).

**tenuis** (Montagu)—Sandsend, 1901 (M.V.L.); Scarborough, Dec., 1912 (F.H.W.).

**turgida** (Leck. & Marsh.)—Scarborough (W.B.); Bridlington Bay (M.B.A.).

## Family NUCULANIDAE

**NUCULANA** Link

**minuta** (Muell.)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

**YOLDIELLA** Verrill & Bush

**tomlini** (Winckw.)—Filey in shell sand, May, 1914 (F.H.W.).

## Order FILIBRANCHIA

## Family ARCIDAE

**GLYCYMERIS** da Costa

**glycymeris** (L.)—Scarborough, 1910 (W.B.); Yorkshire coast, 1929 (J.S.).

**ARCA** Linnaeus

(*Navicula*) **tetragona britannica** Reeve—Scarborough, rare (W.B.).  
(*Striarca*) **lactea** L.—Scarborough, 1910 (W.B.); Filey, 1910 (S.).

## Family ANOMIIDAE

**ANOMIA** Linnaeus

**ephippium** L.—SADDLE OYSTER. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

**MONIA** Gray

**patelliformis** (L.)—Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.); Flamborough, 20-30 fm. (M.B.A.).

**HETERANOMIA** Winckworth

**squamula** (L.)—Sandsend, 1901 (M.V.L.); Scarborough, 1910 (W.B.).

## Family MYTILIDAE

**MYTILUS** Linnaeus

**edulis** L.—COMMON MUSSEL. Common; Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.); var. **incurvata**, Scarborough, 1910 (W.B.); Scalby Mills, 1910 (J.A.H.).

**galloprovincialis** Lam.—Scarborough, 1910 (J.A.H.).

**MODIOLUS** Lamarck

**modiolus** (L.)—HORSE MUSSEL. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Bridlington, May, 1912 (F.H.W.).

**phaseolinus** (Phil.)—Robin Hood's Bay, May, 1907 (F.H.W.); Scarborough, 1910 (W.B.).

**MUSCULUS** Roeding

**discors** (L.)—Whitby, Sept., 1914, Scarborough, Sept., 1911 (F.H.W.); Cayton Bay, 1910 (J.H.H.); Bridlington, May, 1912 (F.H.W.).

**marmoratus** (Forbes)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

**niger** (Gray)—locally "CORDUROY MUSSEL"—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

**CRENELLA** Brown.

**decussata** (Montagu)—Rare, Scarborough (W.B.).

(**Rhomboidella prideauxii** (Leach)—Scarborough, 1910 (W.B.).

## Order OSTREIFORMES

## Family OSTREIDAE

**OSTREA** Linnaeus

**edulis** L.—OYSTER. Sandsend, 1901 (M.V.L.), detached shells thrown up on beach; Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Bridlington, May, 1912 (F.H.W.). var. **parasitica** Scarborough, 1910 (W.B.).

## Order PSEUDOLAMELLIBRANCHIA

## Family PECTENIDAE

**PECTEN** Mueller

**maximus** (L.)—LARGE SCALLOP. Scarborough (W.B.); in trawl (O.G.).

**CHLAMYS** Roeding

**varia** (L.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

**distorta** (da Costa)—Sandsend, 1901, detached valves on beach (M.V.L.), Robin Hood's Bay, Oct., 1912; Scarborough (F.H.W.).

(**Aequipecten**) **opercularis** (L.)—QUEEN SCALLOP. Sandsend 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911 (F.H.W.). Trawler "Strathdee" landed nearly a ton on 18 Jan., 1928 (J.S.). Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

(**Palliolum**) **tigerina** (Muell.)—Robin Hood's Bay, Oct., 1912, fragments, Filey, May, 1913, fragments, Bridlington, May, 1912 (F.H.W.). Numbers in stomachs of plaice off Scarborough (M.B.A.).

**striata** (Muell.)—Off Scarborough (W.B.).

(**Similipecten**) **similis** (Lask.)—Robin Hood's Bay, Oct., 1912, imperfect (F.H.W.).

## Family LIMIDAE

**LIMA** Cuvier

(**Promantellum**) **loscombi** Sow.—Scarborough, rare (W.B.).

## Sub-class TELEODESMACEA

## Family ASTARTIDAE

**ASTARTE** Sowerby

**sulcata** (da Costa)—Scarborough, Dec., 1912 (F.H.W.); Scarborough, 40 fm. (M.B.A.).

**montagui** (Dil.)—Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

## Family THYASIRIDAE

**THYASIRA** Lamarck

**flexuosa** (Montagu)—Scarborough, 1910 (W.B.).

**ferruginea** Winckw.—Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

## Family LUCINIDAE

**LORIPES** Poli

**lucinalis leucoma** (Turt.)—Robin Hood's Bay (F.H.W.); Scarborough (W.B.).

**PHACOIDES** Gray

(**Lucinoma**) **borealis** L.—Dredged at Scarborough (W.B.).

## Family ERYCINIDAE

**KELLIA** Turton

**suborbicularis** (Montagu)—Sandsend, 1901 (M.V.L.) ; Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.) ; Filey, May, 1903 (T.P.).

**LASAEA** Brown

**rubra** (Montagu)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

**TURTONIA** Alder

**minuta** (Fabr.)—Sandsend, 1901, a few detached valves (M.V.L.) ; Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Bridlington, May, 1912 (F.H.W.).

## Family LEPTONIDAE

**LEPTON** Turton

**nitidum** Turt.—Scarborough, var. **convexum** (W.B.) ; var. **pisidiale**, Dec., 1912 (F.H.W.) ; Filey, May, 1914, Bridlington, March, 1913 (F.H.W.).

## Family MONTACUTIDAE

**MONTACUTA** Turton

**substriata** (Montagu)—Robin Hood's Bay, 1910, 20 fm. (G.S.B.) ; Scarborough, Sept., 1913, Filey, May, 1914 (F.H.W.) ; Scarborough, 20 fm. (M.B.A.)—on ventral spines of **Spatangus purpureus**, and occasionally on **Echinocardium flavescens**.

**MYSELLA** Angar

**bidentata** (Montagu)—Sandsend, 1901, detached valves (M.V.L.) ; Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

## Family CYPRINIDAE

**CYPRINA** Lamarck

**islandica** (L.)—Scarborough (T.P., W.B.) ; Bridlington, May, 1912 (F.H.W.).

## Family CARDIIDAE

**CARDIUM** Linnaeus

(**Acanthocardia**) **aculeatum** L.—Whitby, 20 fm. (B.M.A.).

**echinatum** L.—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Bridlington, May, 1912, Scarborough, Sept., 1911 (F.H.W.) ; Filey, May, 1903 (T.P.).

(**Parvicardium**) **ovale** Sow.—Sandsend, 1901 (M.V.L.) ; Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.).

**scabrum** Phil.—Scarborough (W.B.).

**exiguum** Gmel.—Off Robin Hood's Bay (G.S.B.) ; Scarborough, 1910, in shell sand (J.A.H.).

(**Cerastoderma**) **edule** L.—COMMON COCKLE. Sandsend, 1901 (M.V.L.) ; Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

(*Laevicardium*) *crassum* Gmel.—Scarborough, 10 fm. (M.B.A.); Bridlington, May, 1912 (F.H.W.).

Family VENERIDAE

DOSINIA Scopoli

*exoleta* (L.)—Scarborough (W.C.H.); Filey, May, 1913 (F.H.W.).

*lupinus lincta* (Montagu)—Sandsend, 1901 (M.V.L.); Scarborough (W.B.); Filey, May, 1903 (T.P.).

VENUS Linnaeus

*verrucosa* L.—Scarborough, rare (W.B.); may have been imported with ballast, valves from fishermen may have come from between Scarborough and Dogger (J.A.H., 1910).

*casina* L.—Scarborough (W.B.); off Yorkshire coast, 1929 (J.S.).

(*Timoclea*) *ovata* Penn.—Scarborough, Filey (F.H.W.).

(*Clausinella*) *fasciata* (da Costa)—VENUS SHELL. Off Whitby (M.B.A.); Scarborough (W.B.).

(*Chamelea*) *striatula* (da Costa)—Sandsend, 1901 (M.V.L.); Whitby Sept., 1914; Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); also var. *triangularis* and var. *gibba*, 1910 (J.A.H.); Bridlington, May, 1912 (F.H.W.).

VENERUPIS Lamarck

*rhomboides* (Penn.)—Sandsend, 1901 (M.V.L.); Scarborough (W.C.H.); also var. *lactea* (W.B.).

*pullastra* (Montagu)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.).

*saxatilis* (Fleur.)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, 1910 (J.A.H.).

(*Ruditapes*) *decussata fusca* (Gmel.)—Scarborough (W.B.).

Family PETRICOLIDAE

MYSIA Lamarck

*undata* (Penn.)—Scarborough (W.B.); Bridlington, 1910 (W.G.).

Family DONACIDAE

DONAX Linnaeus

*vittatus* (da Costa)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

Family TELLINIDAE

TELLINA Linnaeus

*tenuis* (da Costa)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

(*Fabulina*) *fabula* Gmel.—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

(*Moerella*) *donacina* L.—Scarborough (W.B.). (F.H.W.).

*pygmaea* Lov.—Scarborough, 30 fm. 1910 (G.S.B.).

(*Arcopagia*) *crassa* Penn.—Scarborough, 1910 (W.B.).

**MACOMA** Leach

**balthica** L.—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.); var. **carinaria**, Scarborough and Filey, 1910 (J.A.H.).

## Family SCROBICULARIIDAE

**SCROBICULARIA** Schumacher

**plana** (da Costa)—Scarborough, dirty and discoloured living in harbour, 1910 (J.A.H.).

**ABRA** Lamarck

**tenuis** (Montagu)—Scarborough, rare, 1910 (W.B.).

**alba** (Wood, W.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

**nitida** (Muell.)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Filey, May, 1914 (F.H.W.); Bridlington Bay, food of Dabs (M.B.A.).

**prismatica** (Montagu)—Scarborough (W.B.); Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

## Family ASAPHIDAE

**GARI** Schumacher

**fervensis** (Gmel.)—Whitby, Sept., 1914, Robin Hood's Bay, Scarborough, Sept., 1911 (F.H.W.); Filey, 1910 (W.C.H.).

(**Psammocola**) **depressa** (Penn.)—Scarborough (W.B.).

(**Psammobella**) **tellinella** (Lam.)—Off Robin Hood's Bay, June, 1928 (J.S.); Scarborough (W.B.); Bridlington Quay, rare (W.C.H.).

## Family SOLENIDAE

**CULTELLUS** Schumacher

(**Phaxas**) **pellucidus** (Penn.)—Whitby, Sept., 1914 (F.H.W.); off Scarborough, Bridlington (W.C.H.); occasionally common from Filey Brigg to Speeton, 1910 (J.A.H.).

**ENSIS** Schumacher—RAZOR SHELLS

**ensis** (L.)—Scarborough (W.B., W.C.H.); Filey, 1903 (W.C.H.).

**siliqua** (L.)—HOSE FISH. Used as bait, down coast and off shore, cast up after storms. Sandsend, 1901 (M.V.L.); Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

## Family MACTRIDAE

**MACTRA** Linnaeus

**corallina cinerea** Montagu—TROUGH SHELL. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911 (F.H.W.); Filey, 1903 (W.C.H.); Bridlington, May, 1912 (F.H.W.).

**SPISULA** Gray

**elliptica** (Brown)—Sandsend, 1901 (M.V.L.); Scarborough (V.H.Y.).

**solida** (L.)—Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).



**subtruncata** (da Costa)—Sandsend, 1901 (M.V.L.); Scarborough, 1910 (W.B.); Filey, 1891 (J.P.A.D.); off Flamborough, 1910 (M.B.A.).

Family LUTRARIIDAE

**LUTRARIA** Lamarck

**lutraria** (L.)—Scarborough, Filey, 1910 (J.A.H.); Bridlington, May, 1912 (F.H.W.).

Family MYIDAE

**MYA** Linnaeus

**truncata** L.—Sandsend, 1901 (M.V.L.); Whitby, 5 fm. (M.B.A.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, Filey, 1910 (J.A.H.); Bridlington, May, 1912 (F.H.W.).

(**Arenomya**) **arenaria** L.—COMMON GAPER. Filey, June, 1931 (E.M.M.); Bridlington (W.C.H.).

**SPHENIA** Turton

**binghami** Turt.—Whitby, Sept., 1914 (F.H.W.); Scarborough, 1910 (J.A.H.); Filey, May, 1914 (F.H.W.).

Family ERODONIDAE

**CORBULA** Lamarck

(**Varicorbula**) **gibba** (Olivi)—Scarborough (W.B.); also var. **rosea**, 1910 (W.B.).

Family HIATELLIDAE

**HIATELLA** Bosc

**arctica** L.—Sandsend, on roots of **Laminaria**, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

**striata** Fleur.—STONE BORER. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

**SAXICAVELLA** Fischer

**jeffreysi** Winck.—Off Scarborough (G.J.).

Family PHOLADIDAE

**BARNEA** Risso

**candida** (L.)—WHITE PIDDOCK. Scarborough (W.C.H.); Filey (T.P.); Bridlington, May, 1912 (F.H.W.).

**ZIRFAEA** Gray

**crispata** (L.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.C.H.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

**XYLOPHAGA** Turton

**dorsalis** Turt.—Scarborough (W.B.); Yorkshire Coast, 1929 (J.S.).

Family TEREDINIDAE

**TEREDO** Linnaeus—SHIPWORMS

**norvegicus** Speng.—Scarborough in trawl (O.G.); off Flamborough, Sept., 1926 (J.S.).

**megotara** Forbes & Hanley—Scarborough, washed up in Canadian timber (W.B.).

**BANKIA**

*fimbriatula* Moll. & Roch.—Scarborough, 1910 (J.A.H.).

*bipennata* (Turt.)—Scarborough, on drift wood, 1910 (W.B.).

Sub-class ANOMALODESMACEA

Order LATURNULACEA

Family LATERNULIDAE

**COCHLODESMA** Couthony

*praetenue* (Montagu)—Scarborough (W.B., W.C.H.).

Family THRACIIDAE

**THRACIA** Blainville

*villosiuscula* (Macgill.)—Scarborough, 1910 (W.B.).

*convexa* (Wood)—Off Scarborough (G.J.).

Family LYONSIIDAE

**LYONSIA** Turton

*norvegica* (Gmel.)—Scarborough (W.B., W.C.H.); off Yorkshire coast, 1929 (J.S.).

Order SEPTIBRANCHIA

Family CUSPIDARIIDAE

**CUSPIDARIA**

*cuspidata brevirostris* Brown—Scarborough, 45 fm., 75 miles out (L. & J.T.M.).

Class GASTROPODA

Sub-class PROSOBRANCHIA

Order ARCHAEOGASTROPODA

Family FISSURELLIDAE

**EMARGINULA** Lamarck

*reticulata mülleri* Forbes & Hanley—BONNET SHELL. Scarborough, Filey, broken shells (F.H.W.).

**PUNCTURELLA** Lowe

*noachina* (L.)—Scarborough, 1910 (W.B.).

Family PATELLIDAE

**PATELLA** Linnaeus

*vulgata* L.—COMMON LIMPET, locally "FLITHERS". Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, July, 1891 (J.P.A.D.); Scarborough, 1903 (W.C.H.); Filey Brigg, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.); Flamborough (W.C.H.); var. *coerulea*, Sandsend, 1901 (M.V.L.); Scarborough, 1910 (J.A.H.); var. *picta*, Scarborough, 1910 (J.A.H.).

*depressa* Penn.—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, Filey, common, 1910 (J.A.H.).

*aspera* Roeding—Sandsend, 1901 (M.V.L.).

**PATINA** Leach

**pellucida** (L.) — BLUE-RAYED LIMPET. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Scarborough, 1903 (W.C.H.); Filey, May, 1903 (T.P.).

**laevis** (Penn.) (a form of **pellucida**)—Sandsend, 1901, common (M.V.L.); Filey, May, 1913 (F.H.W.).

## Family LOTTIDAE

**PATELLOIDA** Quoy & Gaimard

(**Collisella**) **tessulata** (Muell.)—TORTOISESHELL LIMPET. Sandsend, 1901 (M.V.L.); Whitby (H.C.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.C.H.); Filey, Gristhorpe, Flamborough, 1910 (W.B.).

(**Tectura**) **virginea** (Muell.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Scarborough, 1903 (W.C.H.); Filey, May, 1913 (F.H.W.); Flamborough (J.D.B.); var. **lactea**, Scarborough, 1910 (W.B.).

## Family LEPETIDAE

**LEPETA** Gray

**fulva** (Muell.)—Robin Hood's Bay, Oct., 1912 (F.H.W.).

## Family TROCHIDAE

**MARGARITES** Gray

**helcinus** (Fab.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1910 (J.A.H.); Filey, May, 1913 (F.H.W.); var. **fasciata**, Scarborough (W.B.); Filey, May, 1903 (T.P.).

**CALLIOSTOMA** Swainson

**zizyphium conuloides** (Lam.)—PAINTED TOP-SHELL. Whitby, 10-20 fm. (M.B.A.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.C.H.); Filey, May, 1903 (T.P.); Flamborough, 30 fm. (P.); var. **lyonsi**, Scarborough, Feb., 1901 (W.C.H.).

**occidentale** (Migh.)—Off Scarborough, 40 fm., 85 miles N.E., three fine specimens, 1910 (L. & J.T.M.).

**CANTHARIDUS** Montfort

(**Jujubinus**) **montagui** (Wood)—Scarborough, deep water, 1910 (J.A.H.).

**GIBBULA** Risso

**tumida** (Montagu)—Sandsend, 1901 (M.V.L.); Robin Hood's Bay, Oct., 1912 (F.H.W.); off Scarborough, very large (L. & J.T.M.); Flamborough, Bridlington (W.C.H.).

**cineraria** (L.)—GREY TOP-SHELL. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Scarborough, worn shells known as "silver churches", 1903 (W.C.H.); Filey Brigg, 1903 (T.P.).

**umbilicalis** (da Costa)—Sandsend, April, 1936 (H.B.); Robin Hood's Bay, 1933 (E.M.M.).

**SKENEA** Fleming*serpuloides* (Montagu)—Scarborough (W.B.).*nitens pusilla* (Jeff.)—Scarborough in shell sand, 1910 (J.A.H.).

## Order MESOGASTROPODA

## Family LACUNIDAE

**LACUNA** Turton*(Epheria) vincta* (Montagu)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Scarborough, Sept., 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).*crassior* (Montagu)—Sandsend, 1901, small, common (M.V.L.); Scarborough, at extreme L.W. mark, 1910 (J.A.H.); Filey, May, 1913, Bridlington (F.H.W.).*(Lacuna) parva* (da Costa)—Sandsend, 1901 (M.V.L.); Robin Hood's Bay, May, 1907 (F.H.W.); Scarborough, 1910 (W.B.); Filey (F.H.W.); var. *conica*, Scarborough, 1910 (W.B.).*pallidula* (da Costa)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Scarborough, Filey, 1903 (W.C.H.).**LITTORINA** Payraudeau*(Algaroda) littorea* (L.).—COMMON PERIWINKLE, WINKLE. Common, Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, April, 1927 (G.F.); Scarborough, 1903 (W.C.H.); Filey Brigg, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).*(Littorivaga) saxatilis* (Oliv.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, 1911 (F.H.W.); Filey Brigg, May, 1903 (T.P.); var. *tenebrosa* and var. *patula*, Hayburn Wyke, 1891 (J.P.A.D.); Scarborough, 1910 (J.T.M.).*(Littorina) neritoides petraea* (Montagu)—SMALL PERIWINKLE. Sandsend, few near H.W. mark, 1901 (M.V.L.); Scarborough, 1944, Filey, 1946 (E.A.W.).*(Neritoides) littoralis* (L.).—FLAT PERIWINKLE. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, 1927 (G.F.); Scarborough, 1903 (W.C.H.); Filey, May, 1903 (T.P.).

## Family HYDROBIIDAE

**HYDROBIA** Hartmann*(Peringia) ulvae* (Penn.)—Sandsend, 1901, one specimen in shell sand (M.V.L.); Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

## Family RISSOIDAE

**CINGULA** Fleming*(Parvisetia) alderi* (Jeff.)—Whitby, Sept., 1914 (F.H.W.); Scarborough, 1910 (W.B.).

- (*Hyalia*) *vitrea* (Montagu)—Scarborough in shell sand (F.H.W.).  
 (*Onoba*) *semicostata* (Montagu) — Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Scarborough, 10 fm. (M.B.A.); Filey, May, 1913, Bridlington May, 1912 (F.H.W.); var. *aculeus*, Sandsend, 1901 (M.V.L.); Scarborough, Filey, 1910 (J.A.H.); var. *arctica*, Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914 (F.H.W.).  
 (*Cingula*) *semistriata* (Montagu)—Sendsend, 1901, common under stones (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

## ALVANIA Risso

- (*Manzonina*) *crassa* (Kanm.)—Sendsend, 1901 (M.V.L.); Scarborough, Sept., 1911 (F.H.W.).

- (*Actonia*) *punctura* (Montagu)—Sendsend, 1901 (M.V.L.); Whitby, Sept., 1914, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

## RISSOA Desmarest

- (*Turboella*) *inconspicua* Ald.—Scarborough, Sept., 1911, Filey, May, 1914 (F.H.W.).

- parva* (da Costa)—Sendsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.); var. *exilis*, rare, var. *semicostata*, Scarborough, 1910 (J.A.H.).

- guerinii* Rec.—var. *costulata*, Scarborough (W.B.).

- (*Rissoa*) *membranacea* (Adams, J.)—Robin Hood's Bay, 1940 (Lab.).

## BARLEEIA Clark

- unifasciata* (Montagu)—Scarborough (W.B.).

## Family TORNIDAE

## TORNUS Turton

- subcarinatus* (Montagu)—Scarborough, 1912 in shell sand—first record in Yorkshire; Cayton Bay, May, 1913 (F.H.W.).

## Family SKENEOPSISIDAE

## SKENEOPSIS Iredale

- planorbis* (Fab.)—Sendsend, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Filey, May, 1913 (F.H.W.).

## Family OMALOGYRIDAE

## OMALOGYRA Jeffreys

- atomus* (Phil.)—Scarborough on sea-weed (G.J.); Filey, May, 1913 (F.H.W.).

## AMMONICERA Vayssière

- rota* (Forbes & Hardy)—Scarborough in rock pools among sea-weeds (G.J.).

## Family TURITELLIDAE

## TURITELLA Lamarck

- communis* Risso—Whitby, 20 fm. (M.B.A.); Scarborough, Filey, May, 1913, Bridlington (F.H.W.).

## Family CAECIDAE

**CAECUM** Fleming*imperforatum* (Kanm.)—Scarborough, 1910 (W.B.).*(Brochina) glabrum* (Montagu) — Scarborough (W.B.); Filey (F.H.W.).

## Family CERITHIIDAE

**BITTIUM** Leach*reticulatum* (da Costa)—Off Scarborough (P.H.G.).

## Family CERITHIOPSIDAE

**CERITHIOPSIS** Forbes & Hanley*tubercularis* (Montagu)—Scarborough, 1910 (W.B.).

## Family EPITONIIDAE

**CIRSOTREMA** Moersch*(Gyroscale) commutatum* (Monterosato)—Off Scarborough, 1910 (J.A.H.).**CLATHRUS** Oken*clathrus* (L.)—Scarborough (W.B.).*turtonis* (Turt.)—Scarborough (W.B.).*trevelyanus* (Johnst.)—Off Whitby (L. & J.T.M.); Robin Hood's Bay, 30-35 fm., 1910 (G.S.B.); Scarborough (J.).

## Family ACLIDIDAE

**GRAPHIS** Jeffreys*albida* (Kanm.)—Scarborough (W.B.); Filey, May, 1913 (F.H.W.).**ACLIS** Loven*ascaris* (Turt.)—Off Scarborough, 1910 (G.S.B.).

## Family EULIMIDAE

**EULIMA** Risso*glabra* (da Costa)—Scarborough, rare (W.B.).*trifasciata* (Adams)—Off Whitby (L. & J.T.M.); Scarborough, Dec., 1912 (F.H.W.).*philippi* (Rayn & Ponzi)—Off Whitby (L. & J.T.M.), Scarborough (F.H.W.).**BALCIS** Leach*alba* (da Costa)—Off Whitby (L. & J.T.M.); Scarborough, 1910 (W.B.).*lubrica* (Monterosato)—Yorkshire coast, 1892 (T.S.).

## Family STYLIFERIDAE

**PELSENEERIA** Koehler & Vaney*(Rosenia) stylifera* (Turt.)—Scarborough on *Echinus* (W.B.); on spines of *Spatangus purpureus*, 1929 (J.S.); Filey on *Echinus esculentus* (L.).

## Family TRICHOTROPIDAE

**TRICHOTROPIS** Broderip & Sowerby*borealis* Brod. & Sow.—Off Whitby (L. & J.T.M.); Scarborough, 1910 (W.B.).

## Family CAPULIDAE

## CAPULUS Montfort

**ungaricus** (L.)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914, Scarborough and Filey in sand (F.H.W.).

## Family APORRHAIIDAE

## APORRHAIIS da Costa

**pespelecani quadrifidus** (da Costa)—Off Whitby (L. & J.T.M.); Yorkshire coast, 1929 (J.S.).

## Family NATICIDAE

## AMAUROPSIS Moersch

**islandica** (Gmel.)—Off Whitby (L. & J.T.M.); Scarborough (L.).

## NATICA Scopoli

(**Euspira**) **pallida groenlandica** Moell.—Off Whitby (L. & J.T.M.); Scarborough shell sand (F.H.W.); Flamborough, 30 fm. (P.).

**fusca** Blainv.—Flamborough, 30 fm. (P.).

**catena** (da Costa)—Sandsend, 1901 (M.V.L.); off Whitby (L. & J.T.M.); Robin Hood's Bay, May, 1907, Filey, May, 1918 (F.H.W.).

**poliana alderi** Forbes—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, 1911, Filey, May, 1913 (F.H.W.); var. **lactea**, off Whitby (L. & J.T.M.); var. **subovalis**, Bridlington, 30 fm., (V.H.Y.).

**montagui** (Forbes)—Off Whitby, also **albidula** (L. & J.T.M.).

## Family ERATORIDAE

## TRIVIA Broderip

**monacha** (da Costa)—COWRIE. Sandsend, 1901 (M.V.L.); off Whitby (L. & J.T.M.); Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.).

## Family LAMELLARIIDAE

## VELUTINA Fleming

**velutina** (Muell.)—Sandsend, 1901, common in shell sand (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, 1911 (F.H.W.); Filey, 1910 (J.A.H.); Bridlington, May, 1912 (F.H.W.).

(**Velutella**) **plicatilis** (Muell.)—Scarborough, 1910 (W.B.).

## LAMELLARIA Montagu

**perspicua** (L.)—Off Whitby (L. & J.T.M.); Scarborough (W.B.).

## Order STENOGLOSSA

## Family MURICIDAE

## TROPHON Montfort

(**Trophonopsis**) **truncatus** (Stroem.)—Off Whitby (L. & J.T.M.); Robin Hood's Bay, 30-35 fm., 1910 (G.S.B.); off Scarborough, 45 miles N.E., Jan., 1927 (J.S.); Bridlington, deep water (W.C.H.).

**barvicensis** (Johnst.)—Yorkshire coast, 1910 (G.J.); from trawlers 1910 (J.A.H.).



**NUCELLA** Roeding

**lapillus** (L.)—DOG WHELK. Sandsend, 1901, very common (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, 1891 (J.P.A.D.); Scarborough, 1903 (W.C.H.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.); Scarborough; var. **minor**, 1910 (J.A.H.); and var. **ovalis**, 1910 (J.T.M.); Bridlington, var. **major**, 1910 (J.A.H.).

**OCENEBRA** Leach

**erinacea** (L.)—Scarborough (W.B.); Filey, May, 1913 (F.H.W.); Flamborough (W.C.H.).

Family **BUCCINIDAE****LIOMESUS** Stimpson

**ovum** (Turt.)—Off Whitby (L. & J.T.M.); Scarborough, 1910 (W.B.).

**BERINGIUS** Dall

**turtoni** (Bean)—Off Whitby (L. & J.T.M.), Scarborough (W.C.H.).

**VOLUTOPSIUS** Moersch

**norvegicus** (Gmel.)—Yorkshire coast, 1910 (G.J.); Scarborough, two specimens from harbour and occasionally brought in by trawlers with **Pecten opercularis**, 1910 (J.A.H.).

**COLUS** (Roeding)

**islandicus** (Gmel.)—Scarborough, immature specimens from harbour; many records erroneous and should be the more common **gracilis**, 1910 (J.A.H.).

**gracilis** (da Costa)—Whitby, 20 fm. (M.B.A.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.B.); Filey, May, 1913 (F.H.W.); Flamborough (M.B.A.).

(**Siphonorbis**) **howsei** (Marsh.)—Off Whitby (L. & J.T.M.); Scarborough, rare (J.A.H.).

**NEPTUNEA** Roeding

**antiqua** (L.)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (O.G.); Filey, May, 1903 (T.P.); Bridlington and Flamborough, very common in deep water (W.C.H.); off Whitby, var. **ventricosa** and var. **alba** (L. & J.T.M.).

**BUCCINUM** Linnaeus

**undatum** L.—COMMON WHELK. Sandsend, 1901, common (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Scarborough, used for bait in autumn and winter, but specimens from Norfolk coast as fishermen state the shells are not so hard and the "fish" better for bait, 1910 (J.A.H.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.); off Whitby var. **striata**, var. **littorale**, var. **pelagicum** (L. & J.T.M.), Scarborough var. **acuminatum**, 1910 (W.B.); Bridlington, var. **sinistrorsum**, 1910 (W.C.H.).

Family **NASSARIIDAE****NASSARIUS** Dumeril

(**Hima**) **reticulatus** (L.)—Whitby (L. & J.T.M.); Scarborough (F.H.W.); Bridlington Bay (M.B.A.).

**incrassatus** (Stroem.)—Sandsend, very common, 1901 (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Hayburn Wyke, 1927 (G.F.); Scarborough (W.C.H.); Filey, May, 1903 (T.P.); Bridlington, May, 1912 (F.H.W.); Whitby, var. **minor** (L. & J.T.M.); Scarborough, var. **similans** from trawlers 1910 (J.T.M.).

#### Family FASCIOLARIIDAE

##### TROSCHELIA Moersch

**berniciensis** (King)—Scarborough, 1910 (W.B.); only one Yorkshire specimen, 1910 (J.A.H.).

#### Family TURRIDAE

##### LORA Gistel

**turricula** (Montagu)—Sandsend, 1901, in shell sand (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, May, 1907, Scarborough, Sept., 1911, Filey, May, 1913, Bridlington (F.H.W.); var. **rosea**, off Whitby (L. & J.T.M.); Bridlington, May, 1912 (F.H.W.).

**trevelliana** (Turt.)—Off Whitby (L.); Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough in stomachs of haddock (W.B.); Filey, 1910 (J.T.M.); Bridlington (F.H.W.).

**rufa** (Montagu)—Sandsend, 1901, common in shell sand (M.V.L.); Whitby, Robin Hood's Bay, Scarborough, Filey, May, 1913, Bridlington, May, 1912 (F.H.W.).

##### MANGELIA Risso

**attenuata** (Montagu)—Scarborough (W.B.).

(**Bela**) **coarctata** (Forbes)—Sandsend, 1901, one specimen in shell sand (M.V.L.); Scarborough, Sept., 1911 (F.H.W.).

(**Bela**) **nebula** (Montagu)—Whitby (L. & J.T.M.); Scarborough (W.B.); and var. **elongata**.

##### PHILBERTIA Monterosato

**purpurea** (Montagu)—Scarborough, 1910 (W.B.).

**linearis** (Montagu)—Sandsend, 1901, and common in shell sand (M.V.L.); off Whitby (L. & J.T.M.); Robin Hood's Bay, Oct., 1912, Scarborough, 1911, Filey, May, 1913 (F.H.W.).

(**Teres**) **teres** (Reeve)—Off Scarborough (G.J.); from trawlers, rare 1910 (J.A.H.).

#### Sub-Class OPISTHOBRANCHIA

##### Order BULLOMORPHA

##### Family ACTEONIDAE

##### ACTEON Montfort

**tornatilis** (L.)—Whitby (L. & J.T.M.); Scarborough, not common (W.C.H.); Filey (F.H.W.); var. **subulata**, off Whitby (L. & J.T.M.).

**t. tenellus** Lov.—Off Whitby (L. & J.T.M.).

## Family PYRAMIDELLIDAE

## CHRYSTALLIDA Carpenter

(*Parthenina*) *obtusa* (Brown)—Sandsend, 1901 (M.V.L.); Whitby, Sept., 1911; Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

*indistincta* (Montagu)—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1910, in shell sand, rare (J.A.H.); Filey, May, 1913 (F.H.W.).

*decussata* (Montagu)—Scarborough, Feb., 1913 (F.H.W.).

(*Ividella*) *excavata harveyi* (Thomps.)—Scarborough (W.B.).

(*Partulida*) *spiralis* (Montagu)—Whitby, Sept., 1914, Robin Hood's Bay, May, 1907 (F.H.W.); Scarborough (W.B.); Filey, May, 1913 (F.H.W.).

## MENESTHO Moeller

(*Noemiamea*) *dolioliformis* (Jeffer.)—Scarborough in shell sand (W.B., G.J.).

(*Evalea*) *divisa* (Adams, J.)—Off Whitby (L. & J.T.M.).

*obliqua* Ald.—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1910 (W.B.); Filey, May, 1913 (F.H.W.).

## ODOSTOMIA Fleming

(*Jordaniella*) *nivosa* (Montagu)—Scarborough (W.B.).

*truncatula* Jeffer.—Scarborough, 1910—one in shell sand (J.A.H.).

(*Odostomia*) *plicata* (Montagu)—Scarborough (W.B.).

*turrita* Hanl.—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, common in shell sand (J.A.H.); Filey, May, 1913 (F.H.W.).

*unidentata* (Montagu)—Sandsend, 1901, a few in shell sand (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, 1911, Filey, May, 1913, Bridlington (F.H.W.).

*acuta* Jeffer.—Scarborough, 1910, 30-35 fm. (G.S.B.).

(*Brachystomia*) *eulimoides* Hanl.—Scarborough, 1910, in shell sand (J.A.H.).

(*Brachystomia*) *albella* (Lov.)—Sandsend, 1901, one specimen in shell sand (M.V.L.).

*scalaris* (Macgill.)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, 1911, Filey, May, 1913 (F.H.W.); var. *dubia*, Scarborough in shell sand (J.A.H.).

## EULIMELLA Jeffreys

*laevis* (Brown)—Sandsend, 1901, one specimen in shell sand (M.V.L.).

(*Ebalina*) *nitidissima* (Montagu)—Scarborough, Feb., 1912 (F.H.W.).

## TURBONILLA Risso

*elegantissima* (Montagu)—Scarborough (F.H.W.).

(*Pyrgisculus*) *crenata* (Brown)—Off Whitby (L. & J.T.M.); off Flamborough as food of plaice (M.B.A.).

## Family DIAPHANIDAE

## DIAPHANA Brown

*minuta* Brown—Sandsend, 1901, one specimen in shell sand (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

## Family RETUSIDAE

## RETUSA Brown

*retusa* (Mat. & Rack.)—Sandsend, 1901, common in shell sand (M.V.L.); Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (W.C.H.); Filey, May, 1913 (F.H.W.).

*alba* (Kanm.)—Sandsend, 1901, one specimen in shell sand (M.V.L.); Scarborough (F.H.W.); Bridlington Bay (M.B.A.).

(*Cylichnina*) *subcylindrica* (Brown)—Off Whitby, also var. *nitidula* (L. & J.T.M.); Scarborough, 1910 (W.B.).

## Family TRICLIDAE

## CYLICHNA Loven

*cylindracea* (Penn.)—Scarborough (W.C.H.); Filey, May, 1913 (F.H.W.).

## ROXANIA Gray

*utriculus cranchii* (Flem.)—Off Whitby (L. & J.T.M.); Scarborough (W.B.).

## Family PHILINIDAE

## HERMANIA Monterosato

*scabra* (Muell.)—Scarborough (W.B.; G.J.).

*catena* (Montagu)—Sandsend, 1901, two incomplete specimens in shell sand (M.V.L.); Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

## OSSIANIA Monterosato

*quadrata scutulum* (Lov.)—Off Whitby (L. & J.T.M.); Scarborough, Filey, 1910 (J.A.H.).

*alata* (Forbes)—Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912, Scarborough, Sept., 1911, Filey, 1913 (F.H.W.).

*angulata* (Jeffer.)—Filey, May, 1913 (F.H.W.).

## Order PTEROPODA

## Family SPIRATELLIDAE

## SPIRATELLA Blainville

*retroversa* (Flem.)—Whitby, 1914, Scarborough, Filey, May, 1913 (F.H.W.).

## Order APLYSIOMORPHA

## Family APLYSIIDAE

## APLYSIA Linnaeus

*punctata* (Cuv.)—SEA-HARE. Robin Hood's Bay, Aug., 1922 (A.I.B.); Scarborough, abundant, Aug., 1913, not seen again till Aug., 1922—5 in. to 6 in. long with egg coils (J.I.); Cayton Bay, July, 1922 (A.I.B.); Filey (F.H.W.).

## Order ASCOGLOSSA

## Family ELYSIIDAE

**ELYSIA** Risso*viridis* (Montagu)—Robin Hood's Bay (L.W.).

## Family LIMAPONTIIDAE

**LIMAPONTIA** Johnston*capitata* (Muell.)—Robin Hood's Bay, Aug., 1913 (J.I.); Filey, May, 1913 (F.H.W.).

## Order PLEUROBRANCHOMORPHA

## Family PLEUROBRANCHIDAE

**BERTHELLA** Blainville*plumula* (Montagu)—Cornelian Bay, 1922 (J.I.).

## Order NUDIBRANCHIA — SEA SLUGS

## Family TRITONIIDAE

**TRITONIA** Cuvier*hombergii* Cuv.—Bridlington Bay, Flamborough, 30 fm. (M.B.A.).  
(*Duvaucelia*) *lineata* Ald. & Hanc.—Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); common in deep water off the coast (J.S.).

## Family LIMACIIDAE

**AEGIRES** Lovén*punctilucens* (d'Orb.)—Scarborough, May and Sept., 1923 (J.I.).**LIMACIA** Mueller*clavigera* (Muell.)—Robin Hood's Bay, Sept., 1912 and 1921 (J.I.).**POLYCERA** Cuvier*quadri-lineata* (Muell.)—Sandsend, 1901, common on *Delesseria sanguinea*, spawning from end of July to the beginning of September (M.V.L.); Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (L.W.); Scarborough (J.I.); Filey, May, 1913 (F.H.W.).*(Palio) dubia* Sars—Robin Hood's Bay, Scarborough, Filey, Sept., 1913 (J.I.).*(Palio) nothus* (Johnst.)—Robin Hood's Bay, Scarborough, May, 1923, Filey, Sept., 1913 (J.I.).**ACANTHODORIS** Gray*pilosa* (Muell.)—Robin Hood's Bay (J.I.); Scarborough, 1910 (J.A.H.).**ADALARIA** Bergh*proxima* (Ald. & Hanc.)—Whitby, Sept., 1914 (F.H.W.); Scarborough, May, 1913 (J.I.).*loveni* (Ald. & Hanc.)—Off Whitby, July, 1928 (J.S.).

**ONCHIDORIS** Blainville

*fusca* (Muell.)—Sandsend, 1901, profusely covering large rock, uncovered only at spring tides—spawning in mid-August (M.V.L.); Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.I.); off Scarborough—fairly common, 31 fm. (M.B.A.); Filey, May, 1913 (F.H.W.).

*muricata* (Muell.)—Sandsend, 1901—common (M.V.L.); Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.I.); Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

*sparsa* (Ald. & Hanc.)—Robin Hood's Bay, Cornelian Bay, Oct., 1911 (J.I.).

*depressa* (Ald. & Hanc.)—Scarborough (J.A., J.I.).

(*Atalodoris*) *pusilla* (Ald. & Hanc.)—Scarborough, June, 1922 (J.I.).

**GONIODORIS** Forbes & Goodsir

*nodosa* (Montagu) — Sandsend, 1901, commonest **Nudibranch** (M.V.L.); Robin Hood's Bay, Scarborough (J.I.); Filey, May, 1913 (F.H.W.).

*castanea* (Ald. & Hanc.)—Scarborough, June, 1922 (three on *Botryllus*) and again August, 1924 (J.I.).

**OKENIA** Menke

(*Idaliella*) *aspersa* (Ald. & Hanc.)—Robin Hood's Bay (L.W.).

**ANCULA** Loven

*cristata* (Ald.)—Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.).

## Family GLOSSODORIDIDAE

**ECHINOCHILA** Morch

*laevis* (L.)—Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.).

**ARCHIDORIS** Bergh

*pseudoargus* (Rapp.)—SEA-LEMON. Sandsend, 1901 (M.V.L.); Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay (J.I.); Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.). Abundant on the littoral but not found in deep water (J.S.).

**JORUNNA** Bergh

*tomentosa* (Cuv.)—Sandsend, 1901 (M.V.L.); Robin Hood's Bay (J.I.); Scarborough, Sept., 1911, Filey, May, 1913 (F.H.W.).

## Family SCYLLAEIDAE

**SCYLLAEA** Linnaeus

*pelagica* L.—Scarborough, Aug., 1910 (J.I.).

## Family DEONDRONOTIDAE

**DENDRONOTUS** Alder & Hancock

*frondosus* (Ascanius) Ald. & Hanc.—Whitby, 20 fm. (M.B.A.); Scarborough, Dec., 1922 (J.A.H.); Flamborough (J.D.B.), the commonest species of **Nudibranch** in deep water—all along coast especially off Robin Hood's Bay and Hayburn Wyke (J.S.).

## Family DOTOIDAE

## DOTO Oken

*coronata* (Gmel.)—Robin Hood's Bay, Scarborough (J.I.); Filey Brigg, May, 1903 (T.P.).

*fragilis* (Forbes)—Whitby, 10-30 fm. (M.B.A.); Robin Hood's Bay (L.W.).

## Family PROCTONOTIDAE

## ANTIOPELLIA Hoyle

*cristatus* (Del. Chi.)—Robin Hood's Bay (J.I.); Scarborough, July, 1911 (J.I.).

## Family CORYPHELLIDAE

## CORYPHELLA Grey

*verrucosa rufibranchialis* (Johnst.)—Robin Hood's Bay (J.I.); Scarborough, Sept., 1911, Filey, 1914 (F.H.W.).

*lineata* (Lov.)—Off Whitby, 34-36 fm., 1910 (M.B.A.).

## Family EUBRANCHIDAE

## EUBRANCHUS Forbes

*tricolor pallidus* (Ald. & Hanc.)—Robin Hood's Bay, Scarborough, June, 1922 (J.I.).

*exiguus* (Ald. & Hanc.)—Robin Hood's Bay (L.W.).

## Family TERGIPEDIDAE

## EMBLETONIA (Alder &amp; Hancock)

*pulchra* (Ald. & Hanc.)—Robin Hood's Bay, Scarborough, 1910 (J.I.).

## TRINCHESIA Ihering

*aurantia* (Ald. & Hanc.)—Scarborough on *Tubularia*, Feb., 1913 (J.I.).

*foliata* (Forbes & Goods.)—Scarborough, May, 1913 (J.I.).

*viridis* (Forbes)—Robin Hood's Bay, Scarborough, April, 1923 (J.I.).

## Family FACELINIDAE

## FACELINA (Alder &amp; Hancock)

*auriculata* (Muell.)—Robin Hood's Bay, Scarborough (J.I.); Filey, 1910 (T.P.); var. *drummondi*, Robin Hood's Bay (J.I.); Scarborough, Aug. and Sept., 1922, numerous (A.I.B.).

*elegans* (Ald. & Hanc.)—Scarborough on *Tubularia*, June, 1922.

## Family AEOLIDIIDAE

## AEOLIDIA Cuvier

*papillosa* (L.)—Sandsend, one specimen on seaweed at spring tide : "species must be common judging from quantity of its pink worm-like spawn to be seen all over the rocks" (M.V.L.); Robin Hood's Bay (J.I.); Scarborough, Sept., 1911 (F.H.W.); Filey, May, 1903 (T.P.); Flamborough (J.D.B.).



Sub-Class PULMONATA  
Order BASOMMATOPHORA  
Family ELLOBIIDAE

**LEUCOPHYTIA** Winckworth

**bidentata** (Montagu)—Scarborough, 1910 (W.B.); Filey (F.H.W.).

**PHYTIA** Gray

**myosotis denticulata** (Montagu)—Scarborough, 1910 (W.B.).

Family OTINIDAE

**OTINA** Gray

**ovata** (Brown)—Scarborough (W.B.); "this species is strictly littoral, living usually in chinks in rocks or in empty **Balanus** shells between tide marks. It is sometimes uncovered as long as 18 hours a day" (W.J.C.).

Class SCAPHOPODA  
Family DENTALIIDAE

**DENTALIUM** Linnaeus

**entalis** L.—TOOTH SHELL. Whitby (T.P.); deep water off Scarborough (W.C.H.).

**vulgare** (da Costa)—Scarborough, 1910 (W.B.).

Class CEPHALOPODA  
Order DECEMBRACHIATA  
Sub-Order TEUTHOIDEA  
Family ARCHITEUTHIDAE

**ARCHITEUTHIS** Steenstrup

**clarkei** (Robs.)—Scarborough, Jan. 14th, 1933—stranded on South side near the Aquarium. Total length 17ft. 5in., weight 16st. 11lb.; only known specimen at time (F.D.T.), described by G. C. Robson in Proc. Zool. Soc. Lond., Sept., 1933, also Nat., 1933, p. 157 and 1934 p. 57. This species was named after our recorder W. J. Clarke. **sp.** At Ravenscar 16 ft. specimen washed ashore Oct., 1938. Beak only preserved; identified at the British Museum (W.J.C., Nat., 1939, p. 136).

Family OMMASTREPHIDAE

**OMMASTREPES** Orbigny

**pteropus** Steen.—Cast up at Redcliffe, March 1st, 1912 (W.J.C.). (Nat., 1908, gives photo of 5ft. 10½in. specimen stranded at Scarborough but no date.)

**caroli** Furt.—Very rare squid, 5ft. 3in. specimen washed up in North Bay, Scarborough, March 18th, 1927, another 4ft. 6in. in South Bay, Feb. 1st, 1928 (J.S.); 5ft. 10in. specimen stranded alive on South sands, Dec. 22nd, 1931; one measuring 5ft. and 24 lbs. weight at South Bay, Jan. 31st, 1935; a 5ft. 2in. specimen on North Shore, 1 mile N. of Scarborough, Feb. 7th, 1938; a 4ft. 10in. specimen in South Bay near Aquarium, Feb. 7th, 1938. One female stranded at Filey, Jan. 9th, 1930, 3ft. 9in. long (W.J.C.).

**SAGITTATUS** Risso

**sagittatus** Lam.—Scarborough, common in 1928 and 1937 in water 35-50 fm. deep, frequently cast up on shore—records in 1929, 1931, 1933, 1936, 1938; Filey, 1936; Cayton Bay, 1937 (W.J.C.).

**TODAROPSIS** Girard

**eblanae** (Ball)—Off Robin Hood's Bay, April, 1928—identified at British Museum, second record from North Sea (J.S.).

Family **LOLIGINIDAE****ALLOTEUTHIS** Wuelker

**media** (L.)—Trawlers' nets sometimes white with them during summer; not found within 3 miles of shore. Most plentiful off Robin Hood's Bay and Hayburn Wyke, average size 3 in. (J.S.); Bridlington Bay (M.B.A.).

**LOLIGO** Lamarck

**forbesii** Steen.—Abundant, especially during autumn; disappear in winter and spring (J.S.), caught in large numbers a few miles off Scarborough (length  $2\frac{1}{2}$  ft.); brought in to harbour and sold as bait; rarely portions of pen picked up on shore, 1910 (J.A.H.); Whitby (T.S.).

Sub-Order **SEPIOIDEA**Family **SEPIIDAE****SEPIA** Linnaeus

**officinalis** L.—**CUTTLEFISH**. Seldom seen but 'sepiostares' or 'bones' are often washed up after storms—early in 1928 hundreds cast up in South Bay, Scarborough (J.S.); one adult taken in trawl 40 mls. N.E. of Scarborough Feb., 1932 (W.J.C.).

Family **SEPIOLIDAE****SEPIOLA** Leach

(**Heterosepiola**) **atlantica** d'Orb.—Not uncommon; too small to be held in trawl nets, though sometimes found on decks of trawlers fishing in smooth ground, e.g. Robin Hood's Bay, Hayburn Wyke; caught in shrimp nets at L.W. at Scarborough (J.S.); food for Dabs and Grey Gurnard, 1910 (M.B.A.).

**SEPIETTA** Naef

**oweniana** (d'Orb.)—Scarborough, Filey, 1910 (J.A.H.); among debris from shrimp nets, Filey Bay, 1914 (F.H.W.).

**ROSSIA** Owen

**macrosoma** (Del. Chi.)—Off Hayburn Wyke, Nov., 1927, identified at British Museum (J.S.); one taken from stomach of cod caught near Scarborough, March, 1933 (W.J.C.).

Order **OCTOPODA**Family **OCTOPODIDAE****ELEDONE** Leach

**cirrhusa** (Lam.)—Whitby, April, 1928 (W.J.C.); Robin Hood's Bay (J.S.); off Hayburn Wyke, April, 1932 (F.D.T.); comparatively common from 20-25 fm. (J.S.).

## Phylum ECHINODERMATA

Class CRINOIDEA — SEA LILIES

Family ANTEDONIDAE

ANTEDON de Fréminville

**bifida** (Penn.)—ROSY FEATHER STAR. Two broken specimens off Robin Hood's Bay, 30 fm., Sept., 1928.

Class ASTEROIDEA — SEA STARS

Order PHANEROZONIA

Sub-order PAXILLOSA

Family ASTROPECTINIDAE

ASTROPECTEN Gray

**irregularis** (Penn.)—BURROWING STARFISH or BUTTHORN. Common on sandy bottoms along coast, mainly in 20-30 fm. (M.B.A.); Scarborough on offshore grounds, feeding on small bivalves swallowed whole (W.D.B.); seen among queen oysters landed at Scarborough, Nov., 1936 (W.J.C.); off Whitby (P.).

Family LUIDIIDAE

LUIDIA Forbes

**ciliaris** (Phil.)—LONG-ARMED STARFISH. Exceedingly abundant in deep water off coast (J.S.).

**sarsi** Dueb. & Kor.—LINGTHORN. Not very common and grows to great size, mainly in deep water in 10-30 fm. (M.B.A.).

Sub-order VALVATA

Family GONIASTERIDAE

HIPPASTERIA Gray

**phrygeana** (Par.)—KNOTTY CUSHION STARFISH. Rare, occasionally trawled in from 40 fm. (J.S.); off Whitby (L. & J.T.M.); near Scarborough in July, 1933, and June, 1936 (W.J.C.); off Flamborough, Sept., 1926 (J.S.).

Order SPINULOSA

Family ASTERINIDAE

ANSEROPODA Nardo

**membranaceus** (Retz.)—BIRD'S-FOOT STAR. Very rare, Scarborough, 1896 (O.G.).

Family SOLASTERIDAE

SOLASTER Forbes

**papposus** (L.)—COMMON SUNSTAR. Common from low-tide mark down. Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Hayburn Wyke, July, 1891 (J.P.A.D.); Filey, 1903 (T.P.).

**endeca** (L.)—PURPLE SUNSTAR. Common in deep water, Robin Hood's Bay, Scarborough (J.C.H.).

## Family ECHINASTERIDAE

**HENRICIA** Gray

**sanguinolenta** (Muell., O. F.)—Fairly common from littoral downwards, generally on rocky ground. Whitby, Sept., 1914, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1896 (O.G.); Filey, May, 1913 (F.H.W.).

## Order FORCIPULATA

## Family ASTERIIDAE

**ASTERIAS** Linnaeus

**rubens** L.—COMMON STARFISH or FIVE FINGERS. Very common in all zones (J.C.H.). Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Scarborough (J.C.H.); Hayburn Wyke, July, 1891 (J.P.A.D.); Filey, May, 1903 (T.P.).

## Class OPHIUROIDEA — BRITTLE STARS

## Order OPHIURAE

## Family OPHIOTRICHIDAE

**OPHIOTHRIX** Mueller & Troschel

**fragilis** (Abild.)—BRITTLE STAR. Common in deep water and rock pools. Off Whitby, 20 fm., Bridlington (M.B.A.); Robin Hood's Bay (L.W.); Scarborough, Filey, May, 1903 (T.P.).

## Family OPHIOCOMIDAE

**OPHIOCOMINA** Koehler

**nigra** (Abild.)—BLACK BRITTLE STAR. Robin Hood's Bay (Lab.).

## Family OPHIACTIDAE

**OPHIOPHOLIS** Mueller & Troschel

**aculeata** (L.)—DAISY BRITTLE STAR. Under stones at very low tide, Scarborough (W.B.).

## Family AMPHIURIDAE

**AMPHIURA** Forbes

**filiformis** (Muell., O. F.)—THREAD-RAYED BRITTLE STAR. Off Whitby, Bridlington Bay (M.B.A.).

**AMPHIPHOLIS** Ljungman

**squamata** (Del. Chi.)—GREY BRITTLE STAR. Common, Robin Hood's Bay (Lab.).

## Family OPHIOLEPIDAE

**OPHIURA** Lamarck

**texturata** Lam.—SAND STAR. Common on sandy bottoms along coast, Scarborough (J.C.H.); off Whitby (T.P.); Robin Hood's Bay, Oct., 1912 (J.I.); Filey, May, 1913 (F.H.W.).

**albida** Forbes—LESSER SAND STAR. Whitby, Sept., 1914 (F.H.W.); Filey, Sept., 1913 (J.I.).

## Class ECHINOIDEA — SEA URCHINS

## Order DIADEMATOIDEA

## Family ECHINIDAE

**PSAMMECHINUS** Agassiz, L.

**miliaris** (Gmel.)—PURPLE-TIPPED URCHIN, locally "BUZZES" or "BUZZERS". Abundant at all zones on rocky ground. Whitby, Sept., 1914 (F.H.W.); Robin Hood's Bay, Scarborough, Nov., 1904 (J.H.); Filey Brigg, May, 1903 (T.P.).

**ECHINUS** Linnaeus

**esculentus** L.—COMMON URCHIN. Abundant from low tide to 50 fm., albinos taken at intervals. Robin Hood's Bay, Oct., 1912 (J.I.); Scarborough (H.); Filey, May, 1913 (F.H.W.).

**acutus** Lam.—Occasional in deep water (J.S.).

**melo** Lam.—At 30 fm. off Whitby and Flamborough (P.).

## Order CLYPEASTROIDEA

## Family FIBULARIIDAE

**ECHINOCYAMUS** Leske

**pusillus** (Muell., O. F.) — CAKE URCHIN or GREEN-PEA URCHIN. Common off coast (J.S.); Scarborough, Sept., 1919 (A.I.B.); often eaten by haddock (M.B.A.).

## Order SPATANGOIDEA

## Family SPATANGIDAE

**SPATANGUS** Mueller O. F.

**purpureus** (Muell., O. F.)—PURPLE-HEART URCHIN. Common in deep water, often bearing small bivalve molluscs. Whitby, 20 fm. (P.); Scarborough, 1896 (O.G.); Flamborough, 30 fm. (M.B.A.).

**ECHINOCARDIUM** Gray

**cordatum** (Penn.)—HEART URCHIN. Common in sandy bays, especially Filey; Whitby (M.B.A.); Scarborough (O.G.); Filey, May, 1913, test only (F.H.W.).

**flavescens** (Muell., O. F.)—Off Whitby (P.).

**pennatifidum** Nor.—Whitby, 30 fm. (M.B.A.).

**BRISSOPSIS** Agassiz, L.

**lyrifera** (Forbes)—Whitby, 30 fm. (M.B.A.); Robin Hood's Bay (L.W.).

## Class HOLOTHUROIDEA — SEA CUCUMBERS

## Order DENDROCHIROTA

## Family CUCUMARIIDAE

**CUCUMARIA** Blairville

**elongata** Dueb. & Kor.—Scarborough, Sept., 1911 (J.I.).

**THYONE** Oken

**roscovita** Hér.—Specimen found 8 miles off Robin Hood's Bay, May, 1928, identified at British Museum (J.S.).

## Family PSOLIDAE

**PSOLUS** Oken

**phantapus** (Struss.)—Occasionally trawled off coast, about 40 fm. (J.S.). Off Whitby, May, 1927; several taken off Scarborough, 1932 (A.W.).

## Phylum BRYOZOA

## Class ECTOPROCTA

## Order GYMNOLAEMATA

## Family AETEIDAE

**AETEA** Lamouroux

**anguina** (L.)—Scarborough (W.B.); Filey (T.H.).

## Family SCRUPARIIDAE

**SCRUPARIA** Oken

**chelata** (L.) — Whitby on **Hydrallmania**, **Scrupocellaria** and **Delessaria**, 1900 (S.L.P.); Robin Hood's Bay (L.W.); Scarborough (W.B.); Filey on **Laminaria** and **Flustra foliacea**, in fair quantity, 1897 (S.L.P.).

**EUCRATEA** Lamouroux

**loricata** (L.)—Whitby and Bridlington Bay, 20 fm. (M.B.A.); Filey, 1897, amongst debris or on **Laminaria** (S.L.P.).

## Family SCRUPOCELLARIIDAE

**SCRUPOCELLARIA** van Beneden

**reptans** (L.)—Whitby and Filey on **Flustra foliacea** (S.L.P.); Robin Hood's Bay, Scarborough (J.V.T.); Bridlington, abundant (G.R.V.).

**scruposa** (L.)—Whitby, 1900 (S.L.P.); Scarborough, 1901 (S.L.P.); Filey on **Flustra**, 1910 (S.L.P.).

**CABEREA** Lamouroux

**ellisi** (Flem.) (= **Cellularia hookeri**)—Common in deep water, especially on **Sertularia abietina** (J.S.).

**TRICELLARIA** Fleming

**peachii** (Busk)—Common in deep water, especially far out where it is picked up in the trawl, 1928 (J.S.); Robin Hood's Bay (L.W.).

**ternata** (Ell. & Sol.)—Scarborough in deep water on **Hydroids** and a valve of **Cytherea** (W.B.); Filey, very common on Zoophytes (T.H.).

## Family BICELLARIELLIDAE

**BICELLARIELLA** Levinson

**ciliata** (L.)—Robin Hood's Bay (J.I.); Scarborough, common in deep water (J.S.); Filey, 1897 on **Bugula purpurotincta** (S.L.P.); Bridlington Bay on **Halecium halecium** (M.B.A.).

## Family BUGULIDAE

## BUGULA Oken

*avicularia* (L.)—Robin Hood's Bay (L.W.); Scarborough on stones (W.B.); occasionally trawled off coast (J.S.).

*flabellata* (Thomps.)—Robin Hood's Bay (J.I.); Scarborough, occasional (J.S.); Filey on *Flustra*, 1897 (S.L.P.).

*plumosa* (Pall.)—Bridlington Bay (M.B.A.); Scarborough.

*turbinata* Ald.—Scarborough, Sept., 1911 (J.I.); Filey, May, 1913 (F.H.W.).

*purpurotincta* Norm.—Scarborough (W.B.); Filey, 1910, on *Flustra* (S.L.P.).

## DENDROBEANIA Levinson

*murrayana* Johnst. (= *Bugula m.*)—Off Whitby (S.L.P.); deep water off Scarborough (W.B.); Filey Brigg, Sept., 1909 (W.J.C.); often brought up by trawlers in inshore waters off Yorkshire coast (J.S.).

## BEANIA Johnston

*mirabilis* Johnst.—Scarborough, on shells, rocks, *Bugula avicularia* (W.B.).

## Family FLUSTRIDAE

## FLUSTRA Linnaeus

*foliacea* (L.)—Whitby, 1900 (S.L.P.); Hayburn Wyke, 1891 (J.P.A.D.); Filey, 1897 (S.L.P.). Attached to rocks, shells, seaweed and even crabs; commonest animal in the district, found everywhere on the sea bottom off the coast—during September, 1925, shore at Filey covered for miles and in places 3 in. deep—thousands of tons must have been washed up by the autumnal equinox gales (J.S.).

## SECURIFLUSTRA Silen

*securifrons* (Pall.)—Whitby, 1910, on scars (S.L.P.); Scarborough (J.V.T.); Filey, 1897 (S.L.P.); Bridlington (M.B.A.).

## CARBASEA Gray

*carbacea* (Ell. & Sol.)—Whitby, 20 fm. (M.B.A.); Scarborough, Filey (T.H.).

## CHARTELLA Gray

*papyracea* (Ell. & Sol.)—Robin Hood's Bay (L.W.).

## Family MEMBRANIPORIDAE

## CONOPEUM Gray

*reticulum* (L.) (= *Membranipora lacroixi*)—Filey, May, 1903 (T.P.).

## MEMBRANIPORA Blainville

*membranacea* (L.)—Whitby, Sept., 1899 on *Hydrallmania*, *Sertularia* and *Laminaria* (S.L.P.); Scarborough, Robin Hood's Bay (J.I.); Filey, 1897, on *Laminaria* (S.L.P.); common in both rock pools and deeper water, attached in particular to oar-weed (J.S.).

## Family ELECTRIDAE

## ELECTRA Lamouroux

*pilosa* (L.)—Whitby, 1910, on various seaweeds (S.L.P.); Robin Hood's Bay, Scarborough (J.I.); Filey, May, 1903 (T.P.); Bridlington (M.B.A.).



## Family CALLOPORIDAE

## CALLOPORA Gray

*aurita* (Hincks.)—Filey, May, 1903 (T.P.).*dumerili* (Aud.)—Bridlington, 10 fm. (M.B.A.).*lineata* (L.)—Filey, May, 1903 (T.P.).

## TEGELLA Levinson

*unicornis* (Flem.)—Bridlington, 10 fm. (M.B.A.).

## Family CELLARIIDAE

## CELLARIA Lamouroux

*fistulosa* (L.)—Scarborough, 1892 (G.R.V.); abundant in 1928 but became scarce later (J.S.).*salicornioides* Aud.—Whitby, Sept., 1914 (F.H.W.); Scarborough (J.I.).

## Family CRIBRILINIDAE

## CRIBRILINA Gray

*punctata* (Hass.)—Filey, 1903 (T.P.).

## MEMBRANIPORELLA Smitt

*nitida* (Johnst.)—Scarborough (W.B.).

## Family UMBONULIDAE

## UMBONULA Hincks

*littoralis* Hast.—Scarborough, 1892 (G.R.V.); Filey, May, 1903 (T.P.).*arctica* (Sars)—Whitby, 30 fm. (M.B.A.); Scarborough, 40 fm. (J.S.).

## Family CHORIZOPORIDAE

## CHORIZOPORA Hincks

*brongniarti* (Aud.)—Filey (T.Pen.).

## Family SMITTINIDAE

## SMITTINA Norman

*landsborovi* (Johnst.)—Scarborough (W.B.).

## Family ESCHARELLIDAE

## ESCHARELLA Gray

*immersa* (Flem.)—Filey, May, 1903 (T.P.).*variolora* (Johnst.)—Scarborough, deep water (W.B.).

## Family HIPPOTHOIDAE

## HIPPOTHOA Lamouroux

*hyalina* (L.)—Filey, May, 1903 (T.P.).

## HAPLOTA Marcus

*clavata* (Hincks) (= *Eucratea clavata*)—Filey, abundant on *Crisidia**cornuta* (T.H.).

## Family SCHIZOPORELLIDAE

## SCHIZOMAVELLA Canu &amp; Bassler

*linearis* (Hass.)—Filey, between tide marks (T.H.).

## SCHIZOPORELLA Hincks

*unicornis* (Johnst.)—Filey, May, 1903 (T.P.).

## Family CELLEPORIDAE

## CELLEPORA Fabricius

*pumicosa* L.—Off Whitby (P.); Robin Hood's Bay (L.W.); Bridlington (M.B.A.); very common in deep water, generally attached to Hydroids (J.S.).

## Family RETEPORIDAE

## RETEPORA Imperato

*beaniana* King—Deep water off Scarborough (J.S.).

## Family CRISIIDAE

## CRISIDIA Milne-Edwards

*cornuta* (L.)—Filey, 1910, on *Sertularia abietina* (S.L.P.).

## CRISIA Lamouroux

*denticulata* Milne-Edw.—Whitby, 1900, on *Hydrallmania* (S.L.P.); Robin Hood's Bay (L.W.); Scarborough (J.S.); Filey, 1910, on *Flustra foliacea* (S.L.P.).

*eburnea* (L.)—Whitby on *Flustra* and *Hydrallmania* (S.L.P.); Robin Hood's Bay, Scarborough (J.V.T.); Filey, May, 1913 (F.H.W.); Bridlington Bay (M.B.A.).

## Family DIASTOPORIDAE

## DIPLOSOLEN Canu

*obelica* (Johnst.)—Filey, 1910, on *Laminaria* (S.L.P.).

## DIASTOPORA Lamouroux

*patina* (Lam.)—Robin Hood's Bay (L.W.); Bridlington, on boulders (M.B.A.).

## Family TUBULIPORIDAE

## TUBULIPORA Lamarck

*liliacea* (Pall.)—Whitby (T.P.); Filey on stones (W.B.); as common as *Cellepore* and found in same places (J.S.).

## Family LICHENOPORIDAE

## LICHENOPORA Defrance

*hispida* (Flem.)—Common in deep water attached to Hydroids (J.S.); Filey, May, 1903 (T.P.).

*radiata* (Aud.)—Bridlington Bay on *Hydrallmania falcata* (M.B.A.).

## Family ALCYONIDIIDAE

## ALCYONIDIUM Lamouroux

*gelatinosum* (L.)—On the bottom off Scarborough and Filey, attached to shells; once found on carapace of *Ebalia* and it was eight times as long and as thick, 1928 (J.S.).

*hirsutum* (Flem.)—Scarborough (J.V.T.); Filey, May, 1903 (T.P.).

*parasiticum* (Flem.)—Filey, 1913 (J.I.); common in deep water (J.S.).

## Family FLUSTRELLIDAE

## FLUSTRELLA Gray

*hispida* (Fab.)—Robin Hood's Bay, 1938 (Lab.).

## Family VESICULARIIDAE

## VESICULARIA Thompson

*spinosa* (L.)—Bridlington Bay (M.B.A.).

## AMATHIA Lamouroux

*lendigera* (L.)—Robin Hood's Bay (L.W.); Filey (T.H.).

## BOWERBANKIA Farre

*imbricata* (Adams)—Filey, May, 1903 (T.P.).

## Family BUSKIIDAE

## BUSKIA Alder

*nitens* Ald.—Whitby (T.H.).

## Family NOLELLIDAE

## ANGUINELLA van Beneden

*palмата* van Ben.—Filey, between tide marks (T.H.).

## Family VALKERIIDAE

## VALKERIA Fleming

*tremula* Hincks—Scarborough, 1911 (A.T.W.).

## Class ENTOPROCTA

## Family PEDICELLINIDAE

## PEDICELLINA Sars

*cernus* (Pall.)—Robin Hood's Bay (L.W.); Scarborough (J.I.); Filey, May, 1903 (T.P.).

## BARENTSIA Hincks

*gracilis* (Sars)—Filey, May, 1903 (T.P.).

## Phylum CHAETOGNATHA

## SAGITTA Quoy &amp; Gaimard

*bipunctata* Quoy & Gaim.—Flamborough, 20 fm., very common (V.H.Y.).

## Phylum PHORONIDEA

## PHORONIS Wright

sp.—*Actinotroch* larva, Robin Hood's Bay, taken in three successive years (1921-23) during second half of August (E.P.).

## Sub-phylum TUNICATA — SEA SQUIRTS

## Class ASCIDIACEA—SESSILE TUNICATES

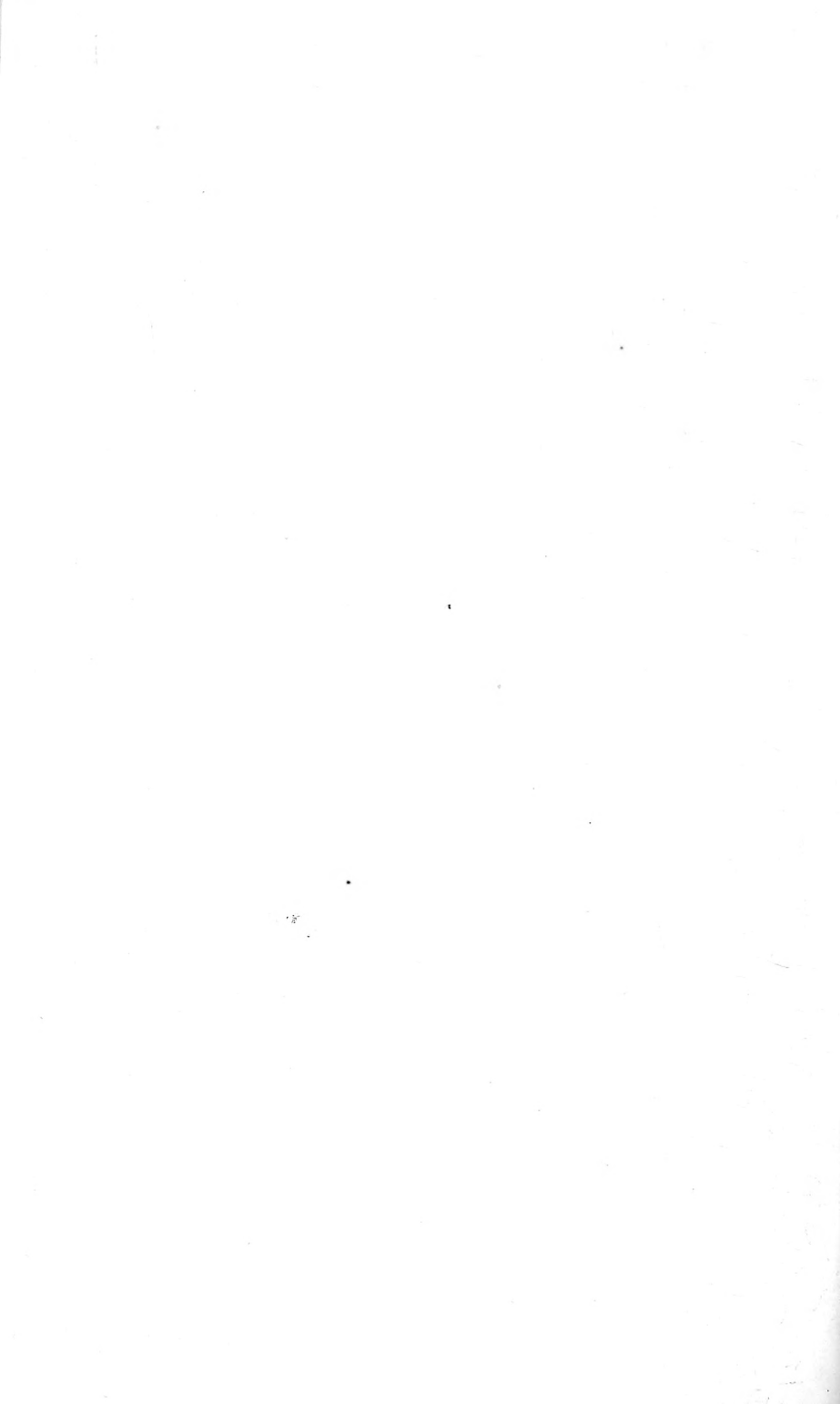
## Order ENTEROGONA

## Family POLYCLINIDAE (=SYNOICIDAE)

## POLYCLINUM Savigny

*aurantium* Milne-Edw.—Cornelian Bay, Sept., 1919 (J.I.).





- SYNOICUM** Phipps  
*pulmonaria* (Ell. & Sol.)—Scarborough, Filey, Sept., 1913 (J.I.).  
**APLIDIUM** Savigny  
*nordmanni* (Milne-Edw.)—Robin Hood's Bay, Sept., 1927 (Lab.).  
**SIDNYUM** Savigny  
*turbinatum* (Sav.)—Scarborough, June, 1924, Filey Brigg, Aug., 1920 (A.J.B.).

## Family DIDEMNIDAE

- DIDEMNUM** Savigny  
*maculosum* (Milne-Edw.)—Scarborough, Sept., 1919 (J.I.).  
**DIPLOSONA** MacDonald  
*listerianum* (Milne-Edw.)—Scarborough, Robin Hood's Bay, Sept., 1921 (J.I.).

## Family CIONIDAE

- CIONA** Fleming  
*intestinalis* (L.)—Robin Hood's Bay, May, 1922 (E.P.); Scarborough, trawled (W.J.C.); off Flamborough, 20 fm. (M.B.A.).

## Family ASCIDIIDAE

- ASCIDIA** Linnaeus  
*mentula* (Muell., O. F.)—Scarborough, 1922 (J.I.); Cornelian Bay, Sept., 1914, Filey, May, 1913 (F.H.W.).  
*virginea* (Muell., O. F.)—Locally "GRAPES", Bridlington Bay, off Flamborough (M.B.A.).

## Order PLEUROGONA

## Family STYELIDAE

- DENDRODOA** Macleay  
*grossularia* (van Ben.)—SEA GOOSEBERRY. Cornelian Bay, Sept., 1919; Filey, Sept., 1913 (J.I.).  
**STOLONICA** Lacaze-Duthiers & Delage  
*socialis* Hart—Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough (J.I.).  
**BOTRYLLUS** Gaertner  
*schlossen* (Pall.)—STAR SEA SQUIRT. Common, Robin Hood's Bay, Oct., 1912 (F.H.W.); Scarborough, 1910, Cornelian Bay (J.I.); Filey, May, 1913 (F.H.W.); Whitby (30 fm.), Flamborough (20 fm.) (M.B.A.).  
*rubens* Ald. & Han.—Robin Hood's Bay, Scarborough (J.I.); Filey, May, 1913 (F.H.W.).  
**BOTRYLLOIDES** Milne-Edwards  
*leachi* (Sav.)—Robin Hood's Bay, Sept., 1921, Scarborough, Sept., 1919 (J.I.); Filey, May, 1913 (F.H.W.).

## Family MOLGULIDAE

- MOLGULA** Forbes & Hanley  
*citrina* Ald & Han.—Robin Hood's Bay, Sept., 1937 (N.B.E.).

## Class LARVACEA — PELAGIC TUNICATES

## Order COPELATA

## OIKOPLEURA Mertens

*dioica* Fol.—Flamborough, 20 fm., rare (V.H.Y.).

## FRITILLARIA Quoy &amp; Gaimard

*borealis* Lohm.—Flamborough, 20 fm. (V.H.Y.).

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# FRESHWATER INVERTEBRATES

Joan R. Kemp

Although in the past the Scarborough Field Naturalists' Society has had recorders of freshwater life, the actual records of most of the groups are meagre. W. H. Newlove however worked for many years on the Rotifers in particular and the great majority of the considerable number of records of this group are taken from his admirably illustrated record-book. Most, if not all, of his identifications were confirmed by David Bryce.

Many living organisms found in freshwater are products of what is at times a difficult environment, one that may dry up in summer and freeze over in winter. There is inevitably a keen struggle for existence which demands much adaptation and flexibility of form. Man also is exerting an increasing influence on freshwater life. From the earliest days he has striven, not always with success, to keep water within defined limits by means of drainage and flood-barriers.

The areas of freshwater in the Scarborough district may be sub-divided as follows :—

(a) Scarborough and Throxenby Meres. The former has served for centuries as a drainage sump for the surrounding higher land and eventually drains out to the sea via the Valley. Scarborough Mere has frequently been stocked with fish (perch, carp, roach, tench, bream, trout and pike) by the Scarborough Corporation, and is often used for angling festivals, but the fish caught have to be returned alive to the water. Owing to the depredations of the pike and the resulting deterioration of the fishing, considerable numbers of this fish were removed by trapping in 1954 and by netting in 1955. Beneath the silt of the bottom is a layer of peat several feet thick. The Mere was greatly enlarged, indeed more than doubled, around 1912, its boundary before this development took place being the line of islands on the western side and then southwards as far as the bridge.

Throxenby Mere appears to have had a varied existence. The Ordnance Survey map of 1854 shows it as much smaller than its present-day size but in 1926 the lower end was dammed and the water-level raised. People still alive (1955) remember the site as a meadow but the mere appears on a plan attached to the Scalby Award, dated 1777. Fifty years ago skating was possible in the winter but about that time the bogbean appeared and rapidly became dominant. This plant forms floating rafts four or five feet thick on which such plants as alder, willow and purple loosestrife become established. So dense is the plant growth (bogbean, yellow-flag, reedmace, marsh-horsetail, water-plantain, etc.) that the oxygen content of the water is seriously depleted at night and the carbon dioxide correspondingly increased. This probably accounts for the almost complete absence of fish in Throxenby Mere.

(b) The Carrs with their system of drainage ditches centred on the Hertford River and emptying into the Derwent near Yedingham. The special act enabling the Drainage Board to carry out this work was passed in 1800.

(c) Moorland pools of stagnant water with a high humus-acid content, together with the streams, often mere trickles, associated with them. These have a characteristic insect fauna consisting largely of certain coleoptera (*Hydroporus* and *Agabus* spp.) and hemiptera (*Corixa* spp.). An outstanding moorland pool is the so-called Volvox Pond on Seamer Moor, by the right-hand side of the old trackway leading from Throxenby Mere to Ayton. This pool was often cloudy with myriads of Volvox colonies but they have not been recorded there since the pond was pumped dry during a nearby fire.

(d) Moorland streams of quick-flowing and well-oxygenated water, becoming rather slower as they near the Vale of Pickering. The River Derwent is the main stream of this group but others are to be found in many moorland valleys.

(e) The quick-flowing streams springing from the base of the Wolds and draining into the Carrs. These streams are clear, cool and with a high calcium content. It is convenient to associate with these such limestone springs as those which feed the ponds at Brompton, Allerston, etc.

(f) The large artificial pools at Hackness, Scampston and Ellerburn. Surprisingly little collecting has been done from these waters.

(g) The drainage area of the Stepney and Woodlands districts just to the west of Scarborough. This drains, via a little stream in Woodland Ravine and a culvert, into Peasholm Glen and Lake and thus into the sea. This system carries the water from the fields, farms and gardens lying to the east of Seamer Moor. In wet years such as 1954, this water is very turbid and drains away rapidly; in dry years such as 1955, it drains away slowly and the little pools in Peasholm Glen then contain a good deal of blue-green algae (*Cyanophyceae*), indicating a high organic-nitrogen content. This is not sufficient however to pollute Peasholm Lake or to cause injury to the large mussels (*Anodonta*) found there.

In the Scarborough district there is no major problem of sewage-pollution of inland waters. The larger towns, Scarborough, Whitby and Filey, being situated on the coast, convey their sewage directly into the sea. There are small modern sewage-disposal schemes at Pickering, Malton and for the Seamer district, but there is a measure of contamination in the vicinity of the villages and the isolated farm-houses. A small amount of sewage-pollution, acting as additional food material, favourably effects most freshwater life, but a gross contamination, because of its reducing nature and the resulting de-oxygenising of the water, causes a dramatic diminution of both fauna and flora. Scarborough Mere occasionally becomes polluted, the source of the trouble on one occasion at least being found to be the stream flowing down Edge Dell. This pollution caused much damage to the

freshwater life of the Mere, especially to the large swan-mussels (*Anodonta cygnea*). This source of pollution has now ceased but the mussels have not reappeared. No contamination could be traced to the very large quantities of town refuse which had been tipped on the western banks of the Mere in 1912 and again between 1923 and 1937. To prevent such contamination a stout puddle clay wall was built to separate the tipping area from the water.

Several phyla other than those dealt with in this section have representatives in freshwater and they are referred to below. It may be helpful to outline the system of classification followed :—

### Phylum PROTOZOA

- „ PORIFERA—Sponges
- „ COELENTERATA
- „ PLATYHELMINTHES—Flatworms
- „ ROTIFERA—Wheel Animalcules
- „ NEMATODA—Roundworms
- „ ANNELIDA—HIRUDINEA—Leeches
- „ ARTHROPODA

### Class CRUSTACEA

- „ TARDIGRADA
- „ ARACHNIDA—Water-mites p. 334  
Spiders p. 318

### „ INSECTA

- COLLEMBOLA—Springtails p. 100
- PLECOPTERA—Stoneflies p. 104
- EPHEMEROPTERA—Mayflies p. 115
- ODONATA—Dragonflies p. 116
- HEMIPTERA—Waterbugs p. 119
- NEUROPTERA—Alderflies p. 140
- TRICHOPTERA—Caddisflies p. 142
- LEPIDOPTERA—Aquatic Moths p. 146
- COLEOPTERA—Beetles p. 196
- HYMENOPTERA—Ichneumon Flies p. 274
- DIPTERA—True Flies p. 288

### „ MOLLUSCA, p. 336

Sincere thanks are due to Mr. M. D. Pittam of the Lister Institute of Preventive Medicine, London, for constant help and advice.

The following abbreviations are used :—

- |                      |                                      |
|----------------------|--------------------------------------|
| T.B.—T. Brewster.    | E.F.G.—E. F. Gilmour.                |
| J.M.B.—J. M. Brown.  | Y.N.U.—Yorkshire Naturalists' Union. |
| W.J.C.—W. J. Clarke. | G.B.W.—G. B. Walsh.                  |
| G.F.—G. Fryer.       | H.W.—H. Whitehead.                   |

## Phylum PROTOZOA

The classification followed is set out in "Protozoology", Hall, 1953 (Prentice-Hall, New York) and is based on that of Jahn and Jahn, 1949.

The following species have been recorded from the Scarborough district.

## Subphylum MASTIGOPHORA

## Class PHYTOMASTIGOPHORA

## Order PHYTOMONADIDA

## Family PHACOTIDAE

*Phacus pleuronectes* (Muell., O.F.)

## Family VOLVOCIDAE

*Volvox globator* (L.)

## Order EUGLENIDA

## Family EUGLENIDAE

*Euglena viridis* Ehr.

*Euglena pleuronectes*, this record possibly refers to *E. pisciformis* Klebs.

## Subphylum SARCODINA

## Class ACTINOPODEA

## Order HELIOZOIDA

## Family ACTINOPHYRIDAE

*Actinophrys sol* Ehr.

## Class RHIZOPODEA

## Order AMOEBIDA

*Amoeba diffluens*, it is likely that this record refers to *A. proteus* (Pall.).

## Order TESTACIDA

## Family ARCELLIDAE

*Arcella vulgaris* Ehr.

*Cryptodifflugia oviformis* Pen.

*Hyalosphaenia papilio* Leidy

## Family DIFFLUGIIDAE

*Amphitrema flavum* Arch.

*Centropyxis aculeata* Stein

*Difflugia oblonga* Ehr.

*Heleopera petricola* Leidy

## Family EUGLYPHIDAE

*Assulina seminulum* Ehr.

*Corythion dubium* Tar.

*Euglypha strigosa* Ehr.

*Nebela linctia* Leidy

*Nebela collaris* Ehr.

*Nebela flabellum* Leidy

*Nebela militaris* Pen.

*Trinema enchelys* Ehr.

*Trinema lineare* Pen.



## Subphylum CILIOPHORA

## Class CILIATEA

## Order HOLOTRICHIDA

## Family AMPHILEPTIDAE

**Amphileptus fasciola**, this record probably refers to **Lionotus fasciola** (Ehr.)

## Family COLEPIDAE

**Coleps hirtus** (Muell., O. F.)

## Family HOLOPHRYIDAE

**Prorodon marginatus**

## Family LOXODIDAE

**Loxodes rusticum**

**Loxodes rostrum** Ehr.

## Family TRACHELIIDAE

**Trachelius ovum** Ehr.

## Family PARAMECIIDAE

**Paramecium caudatum** Ehr.

**Paramecium aurelia** Ehr.

## Family PLEURONEMATIDAE

**Pleuronema chrysalis** Stein

## Order SPIROTRICHIDA

## Family BURSARIIDAE

**Bursaria** sp.

## Family STENTORIDAE

**Stentor coeruleus** Ehr.

**Stentor polymorphus** (Muell., O. F.)

**Stentor muelleri** (Bory)

## Family EUPLOTIDAE

**Euplotes patella** (Muell., O. F.)

## Family OXYTRICHIDAE

**Kerona mytilus** (Muell., O. F.)

**Kerona polyporum** Ehr.

## Order PERITRICHIDA

## Family VAGINICOLIDAE

**Cothurnia imberbis** Ehr.

**Vaginicola crystallinus** Ehr.

## Family VORTICELLIDAE

**Vorticella microstoma** Ehr.

**Vorticella convallaria** (L.)

**Carchesium foetidum**

## Phylum PORIFERA

The classification followed is set out in "The Invertebrates", Vol. 1, Hyman, 1940, and is based on the publications of Topsent, H. V. Wilson and de Laubenfels.

## Class DEMOSPONGIAE

## Family SPONGILLIDAE

- Ephydatia fluviatilis** Lam.—RIVER SPONGE. On planks in Scalby Beck near Burniston Road bridge, occurring in quantity (G.B.W.).  
**Euspongilla lacustris** L.—POND SPONGE. In dripping water at Bready Gill, Lowdales (G.B.W.).

## Phylum COELENTERATA

The classification as set out in "The Invertebrates", Vol. 1, Hyman, 1940.

## Class HYDROZOA

## Family HYDRIDAE

- Hydra viridis** L. (= **Chlorohydra viridissima** (Pall.))—Common in local waters.  
**Hydra fusca** L. (= **Pelmatohydra oligactis** (Pall.))—Has occurred in the Valley Pond.

## Phylum PLATYHELMINTHES

Classification follows Kuekenenthal & Krumbach "Handbuch der Zoologie", Bd. 2, H.1 (1928-1934).

## Class TURBELLARIA

## Family PLANARIIDAE

- Crenobia alpina** (Dana) (= **Planaria**)—Cliff Beck, Saltergate, 1929, Ramsdale Beck, 1933 (J.M.B.); chalk stream, Flixton, 1943 (H.W.).  
**Polycelis felina** (Dalyell) (= **cornuta** (Johnst.))—Row Pasture Beck, Robin Hood's Bay, 1933 (J.M.B.).  
**Polycelis nigra** (Muell., O. F.)—Newtondale, 1929 (J.M.B.); Throxenby Mere, Low North Beck, Hills Green (G.B.W.).

## Family DENDROCOELIDAE

- Dendrocoelum lacteum** (Muell., O. F.)—Pool on Seamer Moor (E.F.G.); Throxenby Mere, Low North Beck, Hills Green (G.B.W.).

## Phylum ROTIFERA

The following list of records of the Rotifera is based almost entirely on the record-book of W. H. Newlove, whose collections were made between 1924 and 1935. A few earlier records by Dr. J. Harvey, A. E. Winter, D. W. Bevan and others are included. Newlove used the nomenclature and classification of Hudson and Gosse, *The Rotifera*, 1886.

The nomenclature used below is based on Harring (1913) as modified in more recent papers by Harring himself (1914), Harring and Myers (1922 to 1928), Myers (1930), Ahlstrom (1941, 1943) and Carlin (1939, 1943).

The arrangement follows that of Remane (1929, etc.). Grateful thanks are due to Prof. E. A. Spaul and to Mr. A. L. Galliford for their invaluable help in adjusting the nomenclature.

## Family PHILODINIDAE

**PHILODINA** Ehrenberg

*citrina* Ehr.—Common in tanks and troughs, 1893 (J.H.); Throxenby Mere, 1925 (W.H.N.).

*megalotrocha* Ehr.—Horse trough, Cayton 1896 (J.H.).

**ROTARIA** Scopoli

*neptunia* (Ehr.)—Many records.

*tardigrada* (Ehr.)—Suffield reed pond, 1926 (W.H.N.).

*macrura* (Ehr.)—Seamer Moor pond (W.H.N.).

*rotatoria* (Pallas) (= *Rotifer vulgaris* Schrank)—Many records.

**DISSOTROCHA** Bryce (= **PHILODINA** Ehrenberg in part)

*aculeata* (Ehr.)—Throxenby Mere, 1925 (W.H.N.).

**PLEURETRA** Bryce (= **CALLIDINA** Ehrenberg in part, **PHILODINA** Ehrenberg in part)

*brycei* (Weber)—Moss in waterfall at Levisham mill, 1926 (W.H.N.).

*segmentata* Bryce—Limestone wall, Ayton, 1930 (*det.* D. Bryce).

Second British record, having previously been recorded only from Snowdon.

## Family PHILODINAVIDAE

**PHILODINAVUS** Harring (= **MICRODINA** Murray)

*paradoxus* (Murray)—Moss in waterfall at Levisham mill, 1929 (*det.* E. A. Harris), a rare species (W.H.N.).

## Family BRACHIONIDAE

**EPIPHANES** Ehrenberg (= **NOTOPS** Hudson in part)

*brachionus* (Ehr.)—Recorded but no station given (W.H.N.).

*senta* (Mueller)—Many records, Newby, Ayton, Suffield (W.H.N.).

**MIKROCODIDES** Bergandal (= **STEPHANOPS** Ehrenberg in part)

*chlaena* (Gosse)—Throxenby Mere, 1925 (W.H.N.).

**BRACHIONUS** Pallas

*calyciflorus* Pallas (= *pala* Ehr.)—Wheatcroft pond, 1925 (W.H.N.).

- PLATYIAS** Harring (=NOTEUS Ehrenberg)  
*quadricornis* (Ehr.)—Ayton mill-dam (W.H.N.).
- KERATELLA** Bory de St. Vincent (=ANURAEA Gosse)  
*quadrata* (Mueller) (*Anuraea aculeata* Ehr.)—Robin Hood's Bay Moor, 1925 (W.H.N.).  
*cochlearis* (Gosse)—Ayton mill-dam (W.H.N.).  
*serrulata* (Ehr.)—Robin Hood's Bay Moor, 1925 (W.H.N.).
- NOTHOLCA** Gosse  
*striata* (Mueller)—Stepney Road, Scarborough (W.H.N.).  
 N.B.—Carlin (1943) considers that the name *N. striata* should refer only to a brackish-water form not known to occur in freshwater. Freshwater forms formerly described under this name are now divided into the species *N. squamula* (Mueller), *N. acuminata* (Ehr.), *N. labis* (Gosse), *N. cinctura* Skorikov; some of these species also occur in brackish waters.
- EUCHLANIS** Ehrenberg  
*dilatata* Ehr.—Cloughton (W.H.N.).  
*incisa* Carlin (=unisetata Leydig)—Seamer Moor (W.H.N.).  
*pyriformis* Gosse—Ayton (W.H.N.).
- MYTILINA** Bory de St. Vincent (=SALPINA Ehrenberg)  
*ventralis* (Ehr.)—Seamer Moor Volvox pond, 1926 (W.H.N.).
- LOPHOCHARIS** Ehrenberg  
*salpina* Ehr.—Throxenby Mere (W.H.N.).
- DIPLOIS** Gosse  
*daviesiae* Gosse—Ayton, 1927, Thornton-le-Dale, 1934 (W.H.N.).
- TRICHOTRIA** Bory de St. Vincent (=DINOCHARIS Ehrenberg)  
*tetractis* (Ehr.)—Row Brow Farm, 1926 (W.H.N.).
- LEPADELLA** Bory de St. Vincent (=METOPIDIA Ehrenberg)  
*triptera* Ehr.—Throxenby Mere, 1925 (W.H.N.).
- SQUATINELLA** Bory de St. Vincent (=STEPHANOPS Ehrenberg in part)  
*mutica* (Ehr.)—Throxenby Mere, 1925 (W.H.N.).  
*longispinata* (Tatem)—Dundall pond, Levisham, 1926 (W.H.N.).
- COLURELLA** Bory de St. Vincent (=COLURUS Ehrenberg)  
*obtusa* (Gosse)—Seamer Moor Volvox pond (W.H.N.).
- LECANA** Nitzsch (=DISTYLA Eichwald in part and CATHYPNA Gosse)  
*flexilis* (Gosse)—In a tank in Lawrence's nursery, Scarborough, 1926 (W.H.N.).

#### Family NOTOMMATIDAE

- NOTOMMATA** Ehrenberg  
*aurita* (Mueller)—Gallows Close pond, 1895 (J.H.).  
*pachyura* (Gosse)—Ditch near Scalby Road, 1895 (J.H.).  
*cerberus* (Gosse)—Scarborough, in water in which roses had been kept, 1925 (W.H.N.).
- TAPHROCAMPA** Gosse  
*annulosa* Gosse—Seamer Moor Volvox pond (W.H.N.).

**CEPHALODELLA** Bory de St. Vincent (= **DIGLENA** Ehrenberg in part and **DIASCHIZA** Gosse)

**auriculata** (Mueller) (**Notommata lacinulata** Ehr.)—Scarborough Mere and Gallows Close pond, 1895 (J.H.).

**catellina** (Mueller)—Many records.

**MONOMMATA** Bartsch

**longiseta** (Mueller) (= **Notommata longiseta** Ehr.)—Throxenby Mere, 1925 (W.H.N.).

**SCARIDIUM** Ehrenberg

**longicaudum** (Mueller) — Ayton, 1930, Thornton-le-Dale, 1934 (W.H.N.).

**EOTHINIA** Harring & Myers (= **EOSPHORA** Ehrenberg in part)

**elongata** (Ehr.)—Thornton-le-Dale, 1926, *det.* D. Bryce (W.H.N.).

#### Family TRICHOCERCIDAE

**TRICHOCERCA** Lamarck (= **MONOCERCA** Bory de St. Vincent and **MASTIGOCERCA** Ehrenberg)

**rattus** (Mueller)—Throxenby Mere, 1925 (W.H.N.).

**cristata** Harring (= **Mastigoverca carinata** Ehr.)—Seamer Moor Volvox pond, 1928 (W.H.N.).

**longiseta** (Schrank) (= **bicornis** Ehr.)—Recorded and specimen drawn, but no station given (W.H.N.).

**stylata** (Gosse)—Raincliffe Wood pond, 1925 (W.H.N.).

#### Family GASTROPODIDAE

**GASTROPUS** Imhof (= **NOTOPS** Hudson in part)

**minor** (Rouss)—Throxenby Mere, 1926 (W.H.N.), *confd.* D. Bryce.

**hyptopus** (Ehr.)—Throxenby Mere, 1925; believed to be a male though Gosse says males are unknown (W.H.N.).

#### Family DICRANOPHORIDAE

**DICRANOPHORUS** Nitsch (= **DIGLENA** Ehrenberg in part)

**forcipatus** (Mueller)—Gallows Close pond, 1895 (J.H.)

#### Family ASPLANCHNIDAE

**ASPLANCHNA** Gosse

**brightwelli** Gosse—Newby, 1896 (J.H.).

**sieboldi** (Leydig) (= **ebbesborni** Hudson) — Newby, 1901, 1906 (J.H.).

#### Family SYNCHAETIDAE

**SYNCHAETA** Ehrenberg

**pectinata** Ehr.—Suffield reed pond (W.H.N.).

**POLYARTHRA** Ehrenberg

**trigla** Ehr. (= **platyptera** Ehr.)—Throxenby Mere, 1925 (W.H.N.).

N.B.—In a recent revision (1943) Carlin has divided this species into several:—**P. vulgaris** Carlin, **P. dolichoptera** (Idelson), **P. ramata** (Skorikov), **P. major** (Burckhardt) and **P. minor** (Voigt). It is not possible to tell to which of these species the above record refers.

## Family TESTUDINELLIDAE

- TESTUDINELLA** Bory de St. Vincent (= **PTERODINA** Ehrenberg)  
*patina* (Hermann)—Seamer Moor Volvox pond, 1925, Throxenby Mere, 1926 (W.H.N.).  
*elliptica* (Ehr.)—Wheatcroft pond, 1925, Ayton mill-dam, Suffield (W.H.N.).  
*reflexa* (Gosse)—Suffield reed pond, 1925 (W.H.N.).  
**FILINIA** Bory de St. Vincent (= **TRIARTHRA** Ehrenberg)  
*longiseta* (Ehr.)—Wheatcroft pond, 1926-7 (W.H.N.).

## Family FLOSCULARIIDAE

- PTYGURA** Ehrenberg (= **OECISTES** Ehrenberg)  
*crystallina* (Ehr.)—Scarborough Mere, 1895 (J.H.); Lockton pond, 1926-29 (W.H.N.).  
*longipes* (Wills) (= *umbella* Hudson) — Ayton mill-dam, 1925 (W.H.N.).  
*pilula* (Cubitt)—Ayton mill-dam, 1925 (W.H.N.).  
**FLOSCULARIA** Cuvier (= **MELICERTA** Schrank, not **FLOSCULARIA** Ehrenberg)  
*conifera* (Hudson)—Scarborough Mere, 1895 (J.H.).  
*ringens* (L.)—Many records.

## Family COLLOTHECIDAE

- COLLOTHECA** Harring (= **FLOSCULARIA** Ehrenberg)  
*cornuta* (Dobie)—Seamer Moor, 1925 (W.H.N.). Now regarded as a variety of *C. ornata*.  
*ornata* (Ehr.)—Seamer Moor, 1895, 1918 (A.E.W.).  
*campanulata* (Dobie)—Scarborough Mere, 1895 (J.H.).  
*algitola* (Hudson)—Seamer Moor Volvox pond, 1920 (W.H.N.).  
*ambigua* (Hudson)—Seamer Moor Volvox pond, 1920 (W.H.N.).  
*annulata* (Hood)—Seamer Moor Volvox pond, 1926, det. D. Bryce (W.H.N.).  
**STEPHANOCEROS** Ehrenberg  
*fimbriatus* (Goldfuss) (= *eichhorni* Ehr.)—Seamer Moor, 1919 (A.E.W.); Ayton mill-dam, 1927, Brickyard Farm pond, Pickering, 1934 (W.H.N.).

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- AHLSTROM, E. T., 1941. "Revision of BRACHIONUS & PLATYIAS", *Amer. Mus. Nat. Hist., Bull.* LXXVII, pp. 143-184.
1943. "Revision of KERATELLA", *Ibid.* LXXX, pp. 411-457.

### Phylum NEMATODA

#### Family ANGUILLULIDAE

*Anguillula fluviatilis* (Muell., O. F.)—Scarborough Mere, 1890 and 1918 (A. E. Winter).

### Phylum NEMATOMORPHA (GORDIACEA)—HAIRWORMS

*Gordius villoti* (Rosa) (=aquaticus)—Quite common.

### Phylum ANNELIDA

#### Class HIRUDINEA

The following list has been compiled from the following sources :—

1. H. Whitehead, *Fresh-water Leeches of Yorkshire*, *Naturalist*, 1943, pp. 107-108.  
*ibid.*, *Yorkshire Naturalists at Scarborough*, *Naturalist*, 1943, p. 123.  
*ibid.*, *The Medicinal Leech at Randy Mere*, *Naturalist*, 1949, p. 20.
2. Observations by D. J. Price and G. B. Walsh.

#### RHYNCHOBDELLIDAE

*Piscicola geometra* (L.)—COMMON FISH LEECH. Scarborough Mere (W. J. Clarke). Whitehead's reference to its capture by Clarke on a trout in the Derwent, *Naturalist*, 1912, p. 303, should be amended to read "p. 191".

*Glossosiphonia complanata* (L.)—GREATER SNAIL LEECH. River Derwent at Wrench Green (G.B.W.); in a sluggish ditch near Scarborough. Probably common and generally distributed.

*Helobdella stagnalis* (L.)—Throxenby Mere (G.B.W.).



## GNATHOBDELLIDAE

**Haemopsis sanguisuga** (L.)—HORSE LEECH. W. J. Clarke says it used to be common in Scarborough Mere and neighbouring ponds and not now widely distributed. However, I have found it common enough in Throxenby Mere and in many other ponds (G.B.W.).

**Hirudo medicinalis** L.—MEDICINAL LEECH. At one time it was believed to be extinct in Yorkshire, but it has been taken in Fen Bog, near Goathland (H.W.), and it is said to occur in marshy tracts near Wheeldale Gill, but search for it there has so far proved fruitless.

**Herpobdella** (*Nephelis*) **octoculata** (L.)—In the Hertford River near Flixton (H.W.).

## Phylum ARTHROPODA

## Class CRUSTACEA

The classification followed is that of Calman, "Oxford Treatise of Zoology", 1909.

## Subclass BRANCHIOPODA

## Order ANOSTRACA

**Eubbranchipus vermalis** Ber.—FAIRY SHRIMP. Reported by W. H. Newlove in 1934, station uncertain.

## Subclass COPEPODA

## Order EUCOPEPODA

**Cyclops vernalis** Fisch.—Very dark specimens found with *C. languidus* near Goathland in sphagnum swamp (G.F.).

**Cyclops languidus** Sars—With the above (G.F.).

## Subclass MALACOSTRACA

## Order ISOPODA

**Asellus meridianus** Racov.—WATER LOUSE. Randy Mere, April and Sept., 1948 (H.W.).

## Order AMPHIPODA

**Gammarus pulex** (L.)—FRESHWATER SHRIMP. Cliff Beck, Saltergate, Levisham Beck, 1929 (J.M.B.).

## Order DECAPODA

**Astacus pallipes** Lereb.—CRAYFISH. Very common in the Hertford River, 1931. Few in Hackness and Forge Valley sections of River Derwent, 1937 (W.J.C., per T.B.). Several in River Derwent at Yedingham, 1932 (Ainsworth).

## Class TARDIGRADA

Although their affinities are still uncertain, the Tardigrada are here considered as Arthropods.

**Macrobiotus hufelandii** Schultze—BEAR ANIMALCULE. Brow Moor, Robin Hood's Bay, 1933 (J.M.B.).

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# LUMBRICIDAE — EARTHWORMS

F. C. Rimington

As British earthworms belong almost entirely to the family **Lumbricidae**, this review is limited to that family. Until recently no work appears to have been done locally on these very important creatures, but during the past few years Dr. A. C. Evans, Dr. G. W. Dimbleby, Mr. P. W. Murphy and probably others have examined the soil macrofauna of the district, particularly of the moorlands and forests.

Ecological factors largely govern the distribution of earthworms. Conditions during the ice-age would certainly destroy the aboriginal soil fauna, for even if the permanent ice did not cover every part of our area, the climatic conditions for immensely long periods must have been intolerable. When the climate modified and the ice retreated to the north, worms which had survived in southern Europe had the opportunity of extending their range. Some species proved far more able than others to colonise the areas progressively liberated from the ice. So successful indeed were these so-called "peregrine" species, that they now dominate not only the soil macrofauna of this area, but that of much of the land surface of the world. Probably man himself has been the chief agent in this expansion, but birds may have played a part. These ubiquitous species are marked with an asterisk in the following list and they may be considered common to the greater part of the northern hemisphere. Their chief interest in this district lies in their extremely varied distribution.

Although the following peregrine species have not yet been recorded from the Scarborough district, it is highly probable that they exist in appropriate situations:—**Eisenia veneta** var. **hortensis**, **Eiseniella tetraedra**, **Lumbricus festivus**.

The position of the remaining species, those which have proved less able to extend their range, is obscure, they may even now be spreading northwards but the amount of data available is meagre.

The variations in earthworm population are startling and although their necessities appear to be simple, some degree of moisture to prevent desiccation and some admixture of organic matter as food, it is at once apparent that many other factors are also involved; aeration, mineral content, soil-particle size, etc. The vegetation and the past history of the soil are other important factors, for instance the use of specific fertilisers tends to make worm populations more uniform. From the following tables it will be obvious that *pH* value and lime-content are of paramount significance.

Counts were made after digging and hand-sorting in April and May, intermediate between the cold of winter and the possible drought of summer, when many worms withdraw deeply underground, particularly the larger species.

		Number of worms per square metre (Mean of several counts)	
Situation		pH Value	
1.	Pine-woods on moors, Silpho	.... 3.5	None
2.	Rough pasture, Thieves' Dyke	.... 3.7	None
3.	Cultivated land a few yards from 2	.... 6.8	50
4.	Limestone pasture, Suffield	.... 7.0	100
5.	Loamy pasture, Crossgates	.... 5.1	310
6.	Peaty pasture, Seamer	.... 7.2	36
7.	Sandy pasture, Spital Corner	.... 7.3	12
8.	Chalky pasture, Flixton	.... 7.9	48
9.	Peat, Flixton	.... 7.5	12
10.	Clay soil, Forge Valley	.... 4.9	32
11.	Limestone rubble, Forge Valley	.... 7.3	20
12.	Clay soil, Raincliffe Wood	.... 3.5	None
13.	Chalky pasture, Fordon	.... 6.5	40
14.	Pasture near beck, Fryup-dale	.... 6.2	500
15.	Pasture near Esk, Glaisdale	.... 5.4	280
16.	Peat, Manham Hill	.... 5.6	None
17.	Stack refuse above 16	.... 5.9	18

The number of worms in any given area cannot be readily assessed with any accuracy; whether they are dug up or forced to the surface with such expellents as potassium permanganate and mowrah meal, there is a probability of considerable withdrawal into adjacent soil, particularly with the expellents. Differing methods of collection in different weather conditions at divers times of year make caution very necessary when comparing the counts of various investigators.

Stephenson gives some extremely high counts—Fir-wood 120, Orchard 720, Garden 1000, Meadow 1660-2000, all per square metre; indeed the figures are so high that it seems possible they include all the oligochaete worms found and not merely the Lumbricidae. On the other hand, Dr. A. C. Evans in describing an abnormal condition in Glaisdale, Fryup-dale and other valleys to the north of our area, estimates a mean of only 250 per square metre. Despite this somewhat low figure, the worm situation in these dales is popularly called a "plague"; in late summer and autumn the innumerable worm-casts cover the herbage in the pastures so that cattle are unable to feed and have to be moved to the uplands, and on the arable land standing stooks are commonly filled with casts up to the level of the bands.

These heavy infestations are of long standing, local inhabitants say that for many years abnormal casting was known on the banks of the Esk near Sleights and the worms are actually known locally as the "Sleights Worm". In all cases the early infestations appear to have started on the banks of streams or rivers and to have spread progressively up the valley sides. In the upper end of Fryup-dale fifty years ago, the heavy castings extended only about 20 yards on either

side of the beck but now they extend 400 yards up the hillsides and are still spreading.

There are no very obvious reasons why earthworms should be so very plentiful in these dales, unless it be the apparent shortage of moles; certainly there are few signs of these natural predators. No information appears to exist of the status in these "worm-plague" areas of such parasites as the larvae of the nematode worm *Rhabdites pello*, or the dipterous larvae of *Pollenia rudis* and *Onesia sepulchralis*. Analysis of the soils from the heavily infested and little infested fields nearby show no significant difference in *pH* value, calcium, potassium, phosphate or nitrogen content, moisture or aeration, that could account for the earthworm preference for certain areas. There is no evidence from any available literature that worms constitute a similar problem in any other part of the British Isles. Dr. Evans estimated that there were at least twice as many worms per unit in the Esk valley as in any other area investigated by him.

He reports the presence of the following species:—

<i>Allolobophora nocturna</i>	....	....	52%
<i>A. caliginosa</i> f. <i>trapezoides</i>	....	....	19%
<i>A. terrestris</i> f. <i>longa</i>	....	....	5%
<i>A. chlorotica</i>	....	....	2%
<i>Eisenia rosea</i>	....	....	2%
<i>Lumbricus terrestris</i>	....	....	10%

The dominant species, *A. nocturna*, is the the one mainly responsible for the very heavy casting. There is a local story that these troublesome casts are caused by some strange worms that reached the district about 50 years ago. A foreign ship is said to have been wrecked near Whitby and the worms are supposed to have got ashore and spread up the Esk Valley. However *A. nocturna* is said by Dr. Evans to be not uncommon in other parts of England, though it was not recognised as a new species until as late as 1946.

No earthworms have been recorded from the open moorlands, although there may be a few where the limestone outcrops, and it seems likely that the free humus acids preclude their living there. Even when the moors have been ploughed and planted with pine-trees the worms appear to be non-existent; under other tree species however, particularly birch, worms have been recorded. When the moorland soil is cultivated and limed sufficiently to produce a dramatic change in *pH* value, earthworms become comparatively common.

Observations confirm Bornebusch's statement that soils more acid than *pH* 4.5 are inimical to earthworms, but that some species, notably *Lumbricus rubellus* appear to be developing a tolerance to relatively acid conditions.

It is rather surprising to find no earthworms in such old-established woodland as Raincliffe Wood, where the soil proves to be a very acid mor; in the contiguous woodland of the Forge Valley, worms are plentiful near the limestone exposures.

Much of the peat between Flixton and Cayton is unexpectedly alkaline and carries a considerable worm population, but some of this peat, presumably that not dressed with the adjacent chalk, seems to be wormless. In some places where a thin layer of recent humus covers the peat (e.g., stack-refuse) a fairly large worm population is confined strictly to this superficial humus layer and shows no inclination to penetrate the peat.

Earthworms appear to prefer fine-particled, lime-saturated soils, with a  $pH$  of from 5 to 7, plenty of humus and ample moisture; land which carries a high sheep population noticeably favours worm multiplication. Some idea of the extent of the worm population of our soils may be gathered from Bornebusch's estimate that in good pasture-land the weight of worms in an area is approximately equal to that of the livestock carried by that area.

Acknowledgments: Grateful thanks are due to Dr. A. C. Evans, Dr. G. W. Dimbleby of the Imperial Forestry Institute, Mr. H. W. Thompson of the National Agricultural Advisory Service, and Mr. F. Raw, land-agent of Fryup, for supplying information; to Dr. D. J. Higgins of the Lenton Experimental Station for determining the  $pH$  values of the soils; to Mr. P. Jefferson for checking the identifications and particularly to Professor E. A. Spaul for identifying my collections and for much helpful advice.

#### Bibliography:

- Bornebusch, C. H., Fauna of the Forest Soil, Copenhagen, 1930.  
 Cernosvitov, L. & Evans, A. C., Lumbricidae, Linnean Society, London, 1947.  
 Murphy, P. W., Biology of Forest Soils, Journal of Soil Science, Vol. IV, 1953.  
 Stephenson, J., The Oligochaeta, Oxford, 1930.

The following initials are used:—

- |                            |                         |
|----------------------------|-------------------------|
| C.E.—Cernosvitov & Evans,  | P.W.M.—P. W. Murphy,    |
| as above                   | as above.               |
| A.C.E.—Dr. A. C. Evans.    | F.C.R.—F. C. Rimington. |
| G.W.D.—Dr. G. W. Dimbleby. | H.W.T.—H. W. Thompson.  |

The arrangement and classification used in the following list of species recorded in the Scarborough area are those used by Cernosvitov and Evans (v.s.).

#### ALLOLOBOPHORA Eisen emend. Rosa

\**caliginosa* (Sav.)—Very common in pastures and gardens. The commonest species in many parts of the world.

\**forma trapezoidea* (Duges, A.)—Generally less abundant than the type but common in Glaisdale, at Lealholm, Goathland and particularly in Fryup-dale (A.C.E.).

\**chlorotica* (Sav.)—Quite common in gardens and in straw refuse.

*nocturna* (Evans)—Local; the dominant species in Fryup-dale where it produces an unusually heavy cast (A.C.E.).



**terrestris** (Sav.)—Widely distributed in gardens, pastures, etc., many records (F.C.R.).

\***forma longa** (Ude)—Fairly common in the Fryup-dale district (A.C.E.); Staxton sand-pits (F.C.R.).

### **BIMASTUS** Moore

\***eiseni** (Lev.)—In birch copses adjacent to Suffield Moor. Appeared after only 4 years on Silpho Moor where birch litter had been applied to the moor surface (G.W.D.).

**tenuis** (Eis.)—Under the bark of old trees, moss, etc., Bridlington (C. & E.).

### **DENDROBAENA** Eisen emend. Rosa

**mammalis** (Sav.)—Limestone pasture, Silpho (F.C.R.).

\***octaedra** (Sav.)—Straw refuse over peat, Manham Hill (F.C.R.); Turkey-carpet plantation under holly, in considerable numbers in experimental plots on Wykeham Low Moor where damp conditions had been produced by a heavy heather mulch (G.W.D.).

\***subrubicunda** (Eis.)—Although there are no actual records, this species (along with **D. rubida**) under the popular names of GILT-TAIL and COCKSPUR is well-known to local anglers. Can be regarded as one of the most common British species.

### **EISENIA** Malm emend. Michaelsen

\***foetida** (Sav.)—BRANDLING. Common in rich soil, manure and compost heaps. Some specimens noticeably luminescent (F.C.R.).

\***rosea** (Sav.)—Widely distributed and common in limestone and chalk districts.

### **LUMBRICUS** Linnaeus

\***castaneus** (Sav.)—Widely distributed but probably not common, High Fordon, Manham Hill, Newby, etc. (F.C.R.).

\***rubellus** (Hoffm.)—RED or MARSH WORM of anglers. Common in the peaty soil of the Carrs (F.C.R.); under birch on Wykeham and Suffield Low Moor (G.W.D.); in very acid conditions under birch in Allerston Forest (P.W.M.).

\***terrestris** (L.)—COMMON EARTH-WORM of text-books, DEW-WORM, SQUIRREL-TAIL or TWACHEL of anglers. Widely distributed in gardens and woodlands. Probably the commonest local species although this is generally not so in other parts of the country (F.C.R.).

### **OCTOLASIUM** Oerley

\***cyaneum** (Sav.)—One record, Glaisdale (F.C.R.).

\***lacteum** (Oerl.)—Sparingly at Bridlington (Nat., 1911, p. 394).



# TERRESTRIAL ISOPODA — WOODLICE

E. A. Wallis

Little investigation in this branch has been done by members of the Society, and we have to thank other workers, notably F. Rhodes and R. S. Bagnall, for many of the records that are included here. One species found locally was the first British record.

Many of the commoner woodlice are extremely abundant and widely distributed all over the district in suitable habitats, but some of the rarer forms are very local. Seventeen species have so far been found in and around Scarborough.

The classification and nomenclature used in these records are those used in the most recent revision of British woodlice by Dr. E. B. Edney.

Grateful thanks are due to Dr. I. Gordon of the Crustacea section of the British Museum (Natural History) for help and advice.

The following contractions are used :—

R.S.B.—R. S. Bagnall

F.R.—F. Rhodes

H.B.—H. Britten fil.

G.B.W.—G. B. Walsh

W.J.C.—W. J. Clarke

E.A.W.—E. A. Wallis

Nat.—“ The Naturalist ”

## LIGIIDAE

### LIGIA Fabricius

**oceanica** (L.)—Fairly common at or just below high-water mark on the shore, in crevices of rocks and walls and among sea-weed and drift-wood. Specimens showing luminosity have been seen in the harbour (W.J.C., E.A.W.).

## TRICHONISCIDAE

### ANDRONISCUS Verhoeff

**dentiger** Verh.—Not uncommon among moss and dead wood ; Raincliffe Wood, Forge Valley (E.A.W.). **Trichoniscus roseus** (Koch) has been recorded from Scarborough Castle Hill (F.R., Nat., 1916, p. 100). This is an alpine species not found in Britain. Other British records of “ **T. roseus** ” have been identified lately as belonging to either of two species of **Androniscus**, namely **A. dentiger** Verh., or **A. weberi** Verh. Until the Castle Hill specimens have been re-examined, it is not possible to say to which species they belong.

### TRICHONISCUS Brandt

**pusillus pusillus** Brandt—Not uncommon and widely distributed.

**pygmaeus** Sars, G. O.—Widely distributed ; Ravenscar (F.R., Nat., 1916, p. 101) ; Forge Valley, Raincliffe Wood (E.A.W.).

**TRICHONISCULUS** Patience

[**albidus** (Budde-Lund)—Rare ; cliffs near Whitby (R.S.B., Nat., 1922, p. 92).]

**TRICHONISCOIDES** Patience

**sarsi** Pat.—Rare ; Scarborough, Filey, Cayton Bay (R.S.B., Nat., 1922, p. 92). [Specimens taken near Whitby (R.S.B.) were the first British record (F.R., Nat., 1916, p. 101).]

**HAPLOPHTHALMUS** Schobl

**mengii** (Zadd.)—Rare ; [cliffs near Whitby (F.R., Nat., 1916, p. 102);] Scarborough (R.S.B., Nat., 1922, p. 92).

**danicus** Budde-Lund—Rare ; Filey, [cliffs near Whitby] (R.S.B., Nat., 1922, p. 92).

## ONISCIDAE

**ONISCUS** Linnaeus

**asellus** L.—Extremely abundant everywhere.

**PHILOSCIA** Latreille

**muscorum** (Scop.)—Very common and widely distributed.

**PORCELLIO** Latreille

**scaber** Latr.—Abundant and generally distributed.

**spinicornis** Say—Not common ; Forge Valley (F.R., Nat., 1916, p. 122).

**PLATYARTHURUS** Brandt

**hoffmannseggii** Brandt—Barns Cliff Wood, in nests of **Formica rufa** (G.B.W.) ; Grosmont (H.B.).

**CYLISTICUS** Schnitzler

**convexus** (De G.)—Not uncommon ; Scarborough (E.A.W.) ; Scalby Mills (F.R., Nat., 1916, p. 123).

## ARMADILLIDIIDAE

**ARMADILLIDIUM** Brandt

**vulgare** (Latr.)—Common and widely distributed.

**pulchellum** (Zench.)—Rare ; Langdale End (F.R., Nat., 1916, p. 122).

**nasatum** Budde-Lund—Not common ; Oak Road, Scarborough, in a green-house, 1939 (W.J.C.).

# MYRIAPODA — MILLIPEDES and CENTIPEDES

G. B. Walsh

## Class DIPLOPODA—MILLIPEDES

This list is based largely on the following article : " British Millipedes, with special reference to Yorkshire species ", by Gordon Blower, *Naturalist*, 1952, pp. 145-157.

We are indebted to Mr. Blower for much kindly help, including the identification of species submitted to him and the reading of this list.

**Glomeris marginata** (Vill.)—PILL MILLIPEDE. Common in woodlands and hedge-banks. Var. **perplexa** (Latz.) occurs with the type together with intermediate forms.

**Polydesmus angustus** Latz.—Frequent at roots of lupins in winter.

**P. coriaceus** Por.—Widely distributed but nowhere common.

**Polymicrodon polydesmoides** Leach—Thornton-le-Dale (G.B.); Raincliffe Wood (G.B.W.).

**Choneiulus palmatus** (Nem.)—An immature female referable to this species or to **Nopoiulus minutus** (Brandt) was collected by Dr. Butler from Thornton-le-Dale, 9/50 (G.B.).

**Blaniulus pulchellus** (Leach) (= **B. guttulatus** (Bosc))—SPOTTED-SNAKE MILLIPEDE. Often found at the roots of various plants and in potatoes, carrots, etc., normally aggravating the damage caused initially by some other agent. Common in the nests of **Formica rufa** at Barns Cliff and Whisperdales (G.B.W.).

**Archeboreoiulus pallidus** (Brade-Birks)—Thornton-le-Dale, 9/50, 1 f. (G.B.).

**Iulus** (**Micropodoiulus**) **scandinavicus** (Latz.)—Raincliffe Wood in forest litter (G.B.W.).

**Brachyiulus** (**Microbrachyiulus**) **pusillus** (Leach)—Hayburn Wyke (G.B.W.).

**Schizophyllum sabulosum** (L.)—Hayburn Wyke, not uncommon (G.B.W.).

**Tachypodoiulus niger** (Leach)—The commonest big black **Iulid** in gardens all over the district, this species eats fruit, especially in autumn, e.g. brambles.

**Cylindroiulus latestriatus** (Curt.) (= **C. oweni** (Bollm.))—Scarborough Castle Hill under stone (G.B.). A species mainly confined to the coast.

**C. punctatus** (Leach)—Fairly common and well distributed, especially under the bark of fallen trees (G.B.W.).

## Class CHILOPODA—CENTIPEDES

There is little published work on this Class, and we are indebted to Mr. Gordon Blower for records of the species and for kindly identifying a few specimens I sent to him.

**Lithobius melanops** Newp.—Not uncommon in a greenhouse at Scarborough, 9/53 (G.B.W.).

**L. forficatus** (L.)—Probably the commonest garden centipede; also common under the bark of fallen trees.

**L. crassipes** Koch, L.—Thornton-le-Dale, 1 spn., 9/50 (G.B.).

**Haplophilus subterraneus** (Shaw)—A common garden species, often mistaken for a millipede.

**Hydroschendyla submarina** (Grube)—Cloughton Wyke below H.W.M. (Cloudsley-Thompson, Nat., 1948, p. 149). A rare littoral species.

**Necrophloeophagus longicornis** (Leach)—Thornton-le-Dale, 9/50, Scarborough Castle Hill, 3/9/52 (G.B.).

**Geophilus carpophagus** Leach—Cloughton Wyke, under stones on top of cliff, 17/8/48 (G.B.).

[**G. electricus** (L.)—Whitby (R. S. Bagnall).]

[**G. anglicanus** Bagn.—Sewerby, 5/8/34 (R. S. Bagnall).]

# INSECTA

## Order THYSANURA — BRISTLE-TAILS

G. B. Walsh

### MACHILIDAE

#### PETROBIUS Leach

*maritimus* (Leach).—Common along the coast.

#### PRAEMACHILIS Silvestri

*hibernica* Carp.—Under limestone rocks in Forge Valley.

### LEPISMATIDAE

#### LEPISMA Linnaeus

*saccharina* L.—SILVER-FISH. Not uncommon in food stores, especially in old houses.

#### LEPISMODES Newman

*domesticus* (Pack.).—FIRE-BRAT. Found in bakeries in Scarborough, running in numbers on the outside of the ovens in places where it was too hot to put the hand.

## Order DIPLURA — BLIND BRISTLE-TAILS

#### CAMPODEA Westwood

*staphylinus* Westw.—Common under stones and among dead leaves.

## Order COLLEMBOLA — SPRING-TAILS

J. M. Brown and G. B. Walsh

The following list has been compiled from private records and from :—

R. S. Bagnall : Contributions towards our knowledge of the Collembola, *Vasculum*, 1921, p. 14.

J. M. Brown : Additional Notes on Apterygota of Yorkshire and Derbyshire, 1923, *Naturalist*, pp. 261-4.

J. M. Brown : Entomology around Robin Hood's Bay, 1938, *Naturalist*, pp. 201-6.

## HYDROPODURIDAE

**HYDROPODURA** Boerner, C.*aquatica* (L.)—Common (J.M.B., G.B.W.).

## ACHORUTIDAE

**ACHORUTES** Templeton*scoticus* Carp. & Evans—Ravenscar (R.S.B.).*pseudoviaticus* Bagn.—In very large numbers in rotting seaweed at Robin Hood's Bay (J.M.B.) ; at mouth of Scalby Beck (G.B.W.).

## NEANURIDAE

**MACGILLIVRAYA** Grote*claviseta* (Axels.)—Ravenscar (R.S.B.).**PSEUDACHORUTES** Tullberg*corticola* (Schaeff.)—Ravenscar (R.S.B.).*subcrassus* Tullb.—Ravenscar (R.S.B.).*dubius* Krausb.—Ravenscar (R.S.B.).**ANURIDA** Laboulbène*maritima* Lab.—Abundant in rock-pools and under layers of rock along the coast ; it is preyed upon by the beetles *Aepopsis robinii*, *Aepus marinus* and *Micralymma marinum* (G.B.W.).**PARANURA** Axelson*sexpunctata* Axels. var. *clavisetis* Axels.—Ravenscar (R.S.B.).**MICRANURIDA** Boerner, C.*pygmaea* Boern., C.—Ravenscar (R.S.B.).

## ONYCHIURIDAE

**ONYCHIURUS** Gervais*finetarius* (L.)—Raincliffe Wood (G.B.W.).**PROTAPHORURA** Absolon*armata* (Tullb.)—Raincliffe Wood (G.B.W.).

## TULLBERGIIDAE

**PARATULLBERGIA** Womersley*carpenteri* Bagn.—Ravenscar (R.S.B.).*macdougalli* Bagn.—Ravenscar (R.S.B.).

## ISOTOMIDAE

**ISOTOMODES** Axelson*[britannicus* Bagn.—Whitby (R.S.B.).]**ISOTOMA** Bourlet*viridis* Bourl.—Browside, Robin Hood's Bay (J.M.B.).*[olivacea* Tullb.—Near Bridlington (J.M.B.).]*sensibilis* Tullb.—Browside, Robin Hood's Bay (J.M.B.).**PODURA** Linnaeus*minor* (Lubb.)—Raincliffe Wood (G.B.W.) ; Robin Hood's Bay (J.M.B.).

## MYDONIIDAE

**ISOTOMURUS** Boerner, C.

*palustris* (Muell., O. F.)—Browside, Robin Hood's Bay (J.M.B.) ; Throxenby Mere (G.B.W.) ; Scarborough Mere (J.M.B.).

**ORCHESELLA** Templeton

*cincta* (L.)—Browside, Robin Hood's Bay (J.M.B.) ; Raincliffe Wood, Forge Valley, Hayburn Wyke (G.B.W.).

*litoralis* Brown, J. M.—Among shingle, Ravenscar (J.M.B.).

**MYDONIUS** Gistel

*albocinctus* (Templ.)—Robin Hood's Bay (J.M.B.).

*nivalis* (L.)—Robin Hood's Bay (J.M.B.).

forma *nicoletii* (Lubb.)—Browside, Robin Hood's Bay (J.M.B.).

*multifasciatus* (Tullb.)—Browside, Robin Hood's Bay (J.M.B.).

**LEPIDOCYRTUS** Bourlet

*lanuginosa* (Gmel.)—Raincliffe Wood (G.B.W.) ; Robin Hood's Bay (J.M.B.).

**SEIRA** Lubbock

*platani* (Nic.) forma *nigromaculata* (Lubb.)—Robin Hood's Bay (J.M.B.).

**CYPHODURUS** Nicolet

*albinos* Nic.—Common in nests of *Formica rufa* at Barns Cliff (G.B.W.).

## SMYNTHURIDAE

**SMINTHURIDES** Boerner, C.

*malmgreni* (Tullb.) var. *elegantulus* (Reut.)—In plenty, Scarborough Mere (J.M.B.).

**ARRHOPALITES** Boerner, C.

*pygmaeus* (Wank.)—In *sphagnum*, Ravenscar (R.S.B., Vasculum, 1921, p. 14).

**BOURLETIELLA** Banks

*signata* (Nic.)—In garden, Scarborough (G.B.W.).

**DEUTEROSMINTHURUS** Boerner, C.

*bicinctus* (Koch) var. *repandus* (Agren)—Scarborough (J.M.B.).

**SMYNTHURUS** Latreille

*viridis* (L.)—Robin Hood's Bay (J.M.B.) ; common, Scarborough district (G.B.W.).

**ALLACMA** Boerner, C.

*fusca* (L.)—Robin Hood's Bay (J.M.B.) ; Forge Valley (G.B.W.).



# Order — ORTHOPTERA

## COCKROACHES and GRASSHOPPERS

G. B. Walsh

## CURSORIA—COCKROACHES

## BLATTIDAE

## BLATTA Linnaeus

*orientalis* (L.)—Fairly common in old houses and bakeries. Specimens are occasionally found in the open.

At times various species of foreign cockroaches e.g. *Pycnoscelus*, are accidentally introduced into the district in fruit, but as they do not establish themselves as members of our fauna and have no real significance, they have been omitted.

## SALTATORIA—GRASSHOPPERS

## TETRIGIDAE

## TETRIX Latreille

*vittata* (Zett.)—Fairly common. Ravenscar, Hayburn Wyke (G.B.W.) ; Levisham, Fylingdales Moor (H.B.) ; plentiful at Howdale ; probably all local records entered as *Tetrix bipunctata* L. should be transferred to this species.

## ACRIDIDAE

## OMOCESTUS Bolivar, I.

*viridulus* (L.)—Common and generally distributed.

*ventralis* (Zett.)—Not common, Flixton (G.B.W.).

## MYRMELEOTETTIX Bolivar, I.

*maculatus* (Thunb.)—Flixton (G.B.W.) ; Howdale (J.M.B.).

## CHORTHIPPUS Fieber

*bicolor* (Charp.)—Common.

*parallelus* (Zett.)—Common.

## LOCUSTA Linnaeus

*migratoria* (L.)—During August and September, 1931, a few examples of this species occurred in scattered localities in the district, members of a general visitation to Britain, but they did not breed and speedily died out.

## TETTIGONIIDAE

## PHOLIDOPTERA Wesmael

*griseoptera* (De G.)—Rare. Several examples were seen at Hayburn Wyke, 27/9/20, but only one was captured as they were very active on a difficult part of the cliff (G.B.W.).

## METRIOPTERA Wesmael

*brachyptera* (L.)—Fylingdales Moor (H.B.).

## GRYLLIDAE

## GRYLLUS Linnaeus

**campestris** L.—FIELD CRICKET. Mr. W. S. Drake, M.A. (in litt.), gave me a description and drawings of a pair of insects seen at Hayburn Wyke, 30/9/39, which were apparently this insect. From the distribution-map in Dr. Malcolm Burr's "British Grasshoppers and their Allies," 1936, this is not impossible, but the record needs confirmation.

## Order DERMAPTERA — EARWIGS

E.C.H.—E. C. Horrell. G.B.W.—G. B. Walsh.

## LABIIDAE

## LABIA Leach

**minor** (L.)—LESSER EARWIG. Few records but well distributed Raincliffe Wood (E.C.H.) ; Thornton-le-Dale, Pickering, Scarborough (G.B.W.).

## FORFICULIDAE

## FORFICULA Linnaeus

**auricularia** L.—COMMON EARWIG. Abundant ; the macrolabious form (f. **forcipata** Steph.) occurs occasionally ; the length of the forceps in the male is somewhat variable.

## Order PLECOPTERA — STONEFLIES

## H. Whitehead

The numerous streams near Scarborough provide excellent conditions for Stoneflies and their nymphs. This statement is borne out by the fact that out of the 33 species in Britain no less than 25 (over 75%) have been taken in the area under consideration.

A complete list of records to date was given in the "Naturalist" of December, 1929, and other records have appeared in the same journal since that date.

The records are by the following workers :

H.B.—H. Britten, fil.

G.T.P.—G. T. Porritt

J.M.B.—J. M. Brown

G.B.W.—G. B. Walsh

E.P.—E. Percival

H.W.—H. Whitehead

## TAENIOPTERYGIDAE

## BRACHYPTERA Newport

**risi** (Mort.)—Staintondale, Mill Beck, (E.P.) ; Littlebeck, 17/5/37. (H.B.) ; Robin Hood's Bay, 1/7/37, Oxbank Wood, 1/7/37, Brockets, Fylingdales, Fylinghall, 25/6/36, Ramsdale Beck, 8/4/40, (J.M.B.) ; Troutsdale, 9/5/42, Harwood Dale, 13/5/40, (H.W.).

**RHABDIOPTERYX** Klapálek

**anglica** Kimm.—A female was taken in Harwood Dale, 10/4/27, (E.P.), and was recorded as **R. neglecta** Alb. Two males and one female were taken from Pickering Beck, 25/4/42, (H.W.). These specimens were submitted to D. E. Kimmins, who regarded all the examples as belonging to a new species. See Proc. R. Ent. Soc. Lond., Series B, vol. 12 (1943), 42-44.

**TAENIOPTERYX** Pictet

**nebulosa** (L.)—Female known as "February Red." Langdale End, (E.P.) ; Pickering, (G.T.P.).

## NEMOURIDAE

**PROTONEMURA** Kempny

**meyeri** (Pict.)—Staintondale, Grain Beck, Robin Hood's Bay, (E.P.) ; Fylinghall, 19/3/36, Maw Wyke, 25/6/37, Brockets, 16/6/37, Oxbank Wood, 1/7/37, Ramsdale, 14/6/37, Ravenscar, 26/3/37, Littlebeck, 1933, (J.M.B.) ; Beckhole, 4/5/35, Raithwaite, 21/3/36, Hole of Horcum, 26/7/37, (H.B.) ; Pickering, 28/3/42, Goathland, 6/7/46, Troutdale, 9/5/42, (H.W.) ; Hayburn Wyke, (G.B.W.).

**praecox** (Mort.)—Fylingdales, 4/33, Brockets, 12/3/39, Fylinghall, (J.M.B.).

**AMPHINEMURA** Ris.

**sulcollis** Steph.—Langdale End, (E.P.) ; Oxbank Wood, 1/7/37, Ramsdale, 14/6/37, Brockets, 16/6/37, Ravenscar, 26/6/37, Maw Wyke, 25/6/37, Fylinghall, 26/6/36, Hole of Horcum, 26/7/37, (H.B.).

**standfussi** Ris—Robin Hood's Bay, 19/6/37, Brockets, 28/6/37, Maw Wyke, 25/6/37, Ramsdale, 8/7/37, Linger's Fields, (J.M.B.) ; Hole of Horcum, 26/7/37, (H.B.).

**NEMOURA** Pictet

**cinerea** Retz.—Brockets, 28/6/37, Oxbank Wood, 1/7/37, Ramsdale, 21/6/27, Goathland, 3/8/30, Saltergate, 1930, (J.M.B.) ; Hayburn Wyke, (G.B.W.).

**avicularis** Mort.—Staintondale, (E.P.) ; Robin Hood's Bay, Brockets, 26/4/38, (J.M.B.) ; Pickering, 24/4/42, (H.W.).

**cambrica** Steph.—Staintondale, (E.P.) ; Brockets, 25/6/37, Ramsdale, 8/7/37, Linger's Fields, 14/5/42, N. Cliffs, Robin Hood's Bay, (J.M.B.) ; Harwood Dale, 26/4/41, Dalby Beck, 7/6/41, Troutdale, 9/5/42, Goathland, 5/5/48, (H.W.) ; Hayburn Wyke, (G.B.W.).

**erratica** Claass.—Ramsdale, 8/7/37, Howdale, 4/5/39, Ness Cliffs, 26/6/40, Linger's Fields, Fylinghall, 19/8/36, (J.M.B.) ; Hole of Horcum, 12/6/37, (H.B.).

**NEMURELLA** Kempny

**inconspicua** (Pict.)—Brockets, 19/6/37, Howdale, 31/5/39, Fylinghall, 31/5/40, (J.M.B.) ; Troutdale, 9/5/42, (H.W.) ; Sleights, 6/10/35, (H.B.) ; Hayburn Wyke, (G.B.W.).

## LEUCTRIDAE

**LEUCTRA** Stephens

**geniculata** Steph.—“Willow Fly.” Pickering, Scalby Beck, (G.T.P.) ; Brockets, (J.M.B.) ; Goathland, 24/9/48, (H.W.) ; Hayburn Wyke, (G.B.W.).

**inermis** Kempny—Staintondale, Mill Beck, (E.P.) ; Howdale, 12/6/37, Ramsdale, 14/6/37, Ravenscar, 23/6/37, Littlebeck, 1933, Maw Wyke, 25/6/37, Brockets, 3/6/40, Fylinghall, 26/6/36, (J.M.B.) ; Troutsdale, 9/5/42, Goathland, 6/7/46, (H.W.) ; Forge Valley, (G.B.W.).

**hippopus** Kempny—Bloody Beck, Mill Beck, Staintondale, Black Beck, (E.P.) ; Brockets, 26/4/38, Howdale, 12/3/40, (J.M.B.) ; Littlebeck, 17/5/37, (H.B.) ; Pickering, 6/6/42, Dalby Beck, 7/6/41, Harwood Dale, 26/4/51, Troutsdale, 9/5/42, Goathland, 14/4/47, (H.W.) ; Hayburn Wyke, (G.B.W.).

**nigra** (Oliv.)—Mill Beck, (E.P.) ; Fylinghall, 19/6/36, Saltergate, (J.M.B.) ; Littlebeck, 17/5/37, Ramsdale, 19/6/37, (H.B.) ; Harwood Dale, 13/5/40, (H.W.).

**fusca** (L.)—Falling Foss, Mill Beck, (E.P.) ; Fylinghall, 23/6/36, Oxbank Wood, 14/9/36, Ramsdale, 24/9/36, Goathland, 2/8/30, Maw Wyke, 17/9/36, (J.M.B.) ; Beckhole, 4/5/35, Hole of Horcum, 26/7/37, (H.B.) ; Pickering, 2/8/41, (H.W.) ; Hayburn Wyke, (G.B.W.).

**moselvi** Mort.—Brockets, 26/4/38, Fylinghall, 29/8/40, Howdale, 9/9/40, (J.M.B.).

## CAPNIIDAE

**CAPNIA** Pictet

**bifrons** Newm.—Staintondale, Mill Beck, Grain Beck, (E.P.) ; Brockets, 26/2/42, adults emerging in the snow, (J.M.B.) ; Raithwaite, 21/3/36, Littlebeck, 17/5/37, (H.B.).

**vidua** Klap.—Littlebeck, Howdale Beck, 12/4/40, (J.M.B.) ; Goathland, 5/5/48, (H.W.).

## PERLIDAE

**PERLA** Pictet

**cephalotes** Curt.—Ramsdale, (E.P.) ; Pickering, (G.T.P.).

## PERLODIDAE

**PERLODES** Banks

**mortoni** (Klap.)—Staintondale, Mill Beck, Robin Hood's Bay, Ramsdale, Grain Beck, (E.P.) ; Falling Foss, Howdale, 4/5/39, Brockets, 26/4/38, Fylinghall, 4/5/40, (J.M.B.) ; Littlebeck, 17/5/37, (H.B.) ; Pickering, 25/4/42, Goathland, 10/4/48, (H.W.) ; Forge Valley, Hayburn Wyke, (G.B.W.).

## CHLOROPERLIDAE

**CHLOROPERLA** Newman

**torrentium** (Pict.)—Mill Beck, (E.P.) ; Maw Wyke, 25/6/37, Fylinghall, 26/6/36, Ramsdale, 14/6/37, Brockets, (J.M.B.) ; Goathland, 6/7/46, (H.W.) ; Hayburn Wyke, (G.B.W.).

**tripunctata** (Scop.)—Mill Beck, (E.P.) ; Ramsdale, 19/6/37, Brockets 16/6/37, Fylinghall, 26/6/36, (J.M.B.) ; Pickering, 6/6/42, (H.W.) ; Hole of Horcum, 26/7/37, (H.B.).

### ISOPERLIDAE

#### ISOPERLA Banks

**grammatica** (Poda)—“ Yellow Sally.” Common; Mill Beck, (E.P.) ; Ramsdale, 21/6/37, Maw Wyke, 25/6/37, Fylinghall, (J.M.B.) ; Pickering Beck, 21/8/41, Forge Valley, 12/6/43, (H.W.) ; Hole of Horcum, 26/6/37, (H.B.) ; Hayburn Wyke, (G.B.W.).

## Order PSOCOPTERA — PSOCIDS, BOOK-LICE

J. M. Brown

The insects belonging to this group are small, inconspicuous and soft-bodied. They form one of the “neglected” orders, rarely collected and studied by entomologists. Perhaps the most widely known members are the “Book-Lice” and “Lesser Death-Watch” insects.

Psocids, however, are very plentiful, occurring most usually amongst the foliage or on the bark of various trees, but many, especially among the wingless or short-winged species, can also be found under stones or among dead leaves. The “Book-Lice” do much damage to book-bindings and to insect or plant collections, and even to food substances indoors.

The species recorded in the following list were nearly all obtained in the Fylingdales district, around Robin Hood’s Bay.

### ISOTECNOMERA

#### PSOCIDAE

#### PSOCUS Latreille

**gibbosus** (Sulz.)—On oak, not very common.

**nebulosus** Steph.—Chiefly on oak.

#### TRICHADENOTECHNUM Enderlein

**sexpunctatum** (L.)—Frequent, resting on the bark of various trees.

#### LOENSIA Enderlein

**fasciata** (Fabr.)—Fairly frequent on the bark of trees.

**variegata** (Latr.)—In similar situations to the last.

#### AMPHIGERONTIA Kolbe

**bifasciata** (Latr.)—A common species, among the foliage and on the bark of various trees.

### STENOPSOCIDAE

#### GRAPHOPSOCUS Kolbe

**cruciatus** (L.)—One of the commonest species, found on trees, especially oak. Interesting variations in the length of the wings occur among individuals.

**STENOPSOCUS** Hagen

*stigmaticus* (Imh. & Labr.)—Not so common as the next species, but occurring in Fylingdales on oak, holly and ivy.

*immaculatus* (Steph.)—A very common species on deciduous trees.

**POLYPSOCIDAE****REUTERELLA** Enderlein

*helvimaculata* (End.)—Common on the trunks of trees. In the crevices of the bark they construct webs under which adults, immature individuals and eggs may be found.

**CAECILIIDAE****CAECILIUS** Curtis

*fuscopterus* (Latr.)—This species has occurred once only in this area, when it was beaten from a hawthorn hedge beneath an oak, at Robin Hood's Bay.

*flavidus* (Steph.)—Plentiful; obtained by beating various trees, especially oak.

*burmeisteri* Brauer—Common on conifers.

**ENDERLEINELLA** Badonnel

*obsoleta* (Steph.)—Fairly common and often obtained with the previous species on conifers.

**LACHESILLA** Westwood

*pedicularia* (L.)—A common species, sometimes occurring in swarms, but in this area known only from Robin Hood's Bay.

**PERIPSOCIDAE****PERIPSOCUS** Hagen

*phaeopterus* (Steph.)—Fairly common on both deciduous and coniferous trees.

*parvulus* Kolbe—Not at all common. The only known occurrence in this area was a colony found on the bark of an old sycamore tree at Fylinghall.

*alboguttatus* (Dalm.)—Another uncommon species, taken on larch at Robin Hood's Bay.

**ECTOPSOCUS** McLachlan

*briggsi* (McL.)—Fairly common on various trees such as oak and holly, and sometimes occurring in large numbers among decaying leaves in winter.

**HETEROTECNOMERA****MESOPSOCIDAE****MESOPSOCUS** Kolbe

*unipunctatus* (Muell., O.F.)—Common and widespread on various trees.

**ELIPSOCUS** Hagen

**consimilis** McL.—Taken in this area only in Ramsdale on larch and Scots pine.

**cyanops** Rost.—Plentiful on conifers.

**hyalinus** (Steph.)—Common on deciduous trees.

**westwoodi** McL.—Common and frequently occurring with the last species.

**PHILOTARSUS** Kolbe

**pivicornis** (Fabr.)—Common, especially on conifers.

**LIPOSCELIDAE****LIPOSCELIS** Motschulsky

**divinatorius** (Muell., O.F.)—Very common; too plentiful in houses where it does much damage to insect collections and dried plants, etc. One of the Book-Lice.

**PSYLLIPSOCIDAE****PSYLLIPSOCUS** Selys

**ramburi** Sel.—Occurs indoors among papers, etc., sometimes with the previous species but not so commonly. The short-winged form, previously known as **Nymphopsocus destructor** (End.), has been taken once in the area, at Robin Hood's Bay.

**TROGIIDAE****LEPINOTUS** Heyden

**inquilinus** Heyd.—Occurs indoors, sometimes in large numbers; our only record is from Scarborough.

**TROGIUM** Illiger

**pulsatorium** (L.)—Another of the Book-Lice and a household pest. Does much damage to book-bindings and collections of insects and plants, and is commonly known as the Lesser Death-Watch.

**HYPERETES** Kolbe

**guestfalicus** Kolbe—Occurs plentifully on tree trunks, sycamore, beech, alder and ash.

**Order ANOPLURA — LICE**

G. B. Walsh

**MALLOPHAGA—BITING LICE**

The following records are based on specimens in a collection formed at the end of the last century by the late W. J. Clarke, and on examples found on their hosts by J. S. Hicks of High Fordon, near Wold Newton, A. J. Wallis and G. B. Walsh.

They have been identified by the late Dr. J. Waterston, by Mr. Gordon B. Thompson and by Miss Theresa Clay. We are especially indebted to Miss Clay for the great help she has also given us in the compilation of this list and for much helpful advice.



The list is alphabetical and is based on "A Check List of the Genera and Species of Mallophaga" by G. H. E. Hopkins and Theresa Clay, published by the British Museum, 1952.

At Miss Clay's suggestion we are marking certain species with an \* indicating 'that such names are provisional until a revision of the genus shows whether or not they are synonymous with another species'.

For conformity the scientific names of the birds are the same as those used later in the list of birds by A. J. Wallis.

### AMYRSIDEA Ewing

**perdicis** (Denny)—On common partridge, *Perdix p. perdix* (L.)—Scarborough, Rudston.

### ANATICOLA Clay

\***angustolimbatus** (Gieb.)—On common scoter, *Melanitta n. nigra* (L.)—Filey Brigg, 27/12/51, Scarborough.

**anseris** (L.)—On domestic goose, *Anser anser* (L.)—Scarborough.

**crassicornis** (Scop.)—On mallard, *Anas p. platyrhynchos* L.—Scarborough.

**crassicornis sordidus** (Gieb.)—On teal, *Anas c. crecca* L.—Scarborough.

\***frater** (Gieb.)—On long-tailed duck, *Clangula hyemalis* (L.)—Scarborough.

**rubromaculatus** (Rudow)—On common eider, *Somateria m. mollissima* (L.)—Scarborough.

### ANATOECHUS Cummings

\***brunneopygus** (Mjoeb.)—On brent goose, *Branta bernicla* (L.)—Scarborough.

\***ferrugineus** (Gieb.)—On common scoter, *Melanitta n. nigra* (L.)—Scarborough.

\***natatorium** (Rudow)—On long-tailed duck, *Clangula hyemalis* (L.)—Scarborough.

### BRUELIA Kéler

**merulensis** (Denny)—On blackbird, *Turdus m. merula* L.—Hackness.

**nebulosa** (Burm.)—On starling, *Sturnus v. vulgaris* L.—Scarborough.

**uncinosa** (Burm.)—On carrion-crow, *Corvus c. corone* L.—High Fordon, -/4/54.

**viscivori** (Denny)—On mistle-thrush, *Turdus v. viscivorus* L.—Scarborough.

### CAMPANULOTES Kéler

**bidentatus** (Scop.)—On wood-pigeon, *Columba p. palumbus* L.—Scarborough.

**compar** (Burm.)—On pigeon, *Columba livia domestica* L.—Scarborough.

### COLOCERAS Taschenberg

**damicorne** (Nitzsch)—On wood-pigeon. *Columba p. palumbus* L.—near Scarborough.

### COLPOCEPHALUM Nitzsch

**subaequale** Burm.—On rook, *Corvus f. frugilegus* L.—Scarborough.

**COLUMBICOLA** Ewing

**claviformis** (Denny)—On wood-pigeon, *Columba p. palumbus* L.—Scarborough, Bampton.

**columbae** (L.)—On pigeon, *Columba livia domestica* L.—Scarborough.

**CRASPEDONIRMUS** Thompson

**colymbinus** (Denny)—On red-throated diver, *Colymbus stellata* Pontopp.—Scarborough, 18/6/94.

**CUMMINGSIELLA** Ewing

**ovalis** (Scop.)—On common curlew, *Numenius a. arquata* (L.)—Scarborough.

**DAMALINIA** Mjoeberg

**breviceps** (Rudow)—On cow, *Bos taurus* L.—Widely distributed.

**caprae** (Gurlt)—On goat, *Capra hircus* L.—Scarborough.

**DEGEERIELLA** Neumann

**rufa** (Burm.)—On kestrel, *Falco t. tinnunculus* L.—Scarborough.

**DENNYUS** Neumann

**hirundinis** (L.)—On swift, *Apus a. apus* (L.)—Filey, 22/5/52; Scarborough.

**FELICOLA** Ewing

**subrostratus** (Burm.)—On domestic cat, *Felis catus* L.—Common.

**vulpis** (Denny)—On fox, *Vulpes vulpes crucigera* (Bechst.)—Scarborough.

**GLIRICOLA** Mjoeberg

**porcelli** (Schr.)—On cavy, *Cavia porcellus* (L.)—Scarborough.

**GONIOCOTES** Burmeister

**alatus** Piag.—On red-legged partridge, *Alectoris r. rufa* (L.)—Scarborough, 17/4/52.

**GONIODES** Nitzsch

**dispar** Burm.—On red-legged partridge, *Alectoris r. rufa* (L.)—Scarborough, 17/4/52.

**spiniornis** Nitzsch—On tragopan, *Tragopan satyra* (L.)—Near Scarborough; probably an aviary bird, and therefore the record is of no faunistic significance.

**GYROPUS** Nitzsch

**ovalis** Burm.—On cavy, *Cavia porcellus* (L.)—Scarborough.

**HOHORSTIELLA** Eichler

**gigantea** (Denny)—On stock-dove, *Columba oenas* L.—Flamborough, Scarborough.

**LUNACEPS** Clay & Meinertzhagen

**numenii** (Denny)—On common curlew, *Numenius a. arquata* (L.)—near Scarborough.

**MENACANTHUS** Neumann

**mutabilis** Blag.—On starling, *Sturnus v. vulgaris* (L.)—Scarborough.

**stramineus** (Nitzsch)—On domestic turkey, *Meleagris gallopavo domestica*—Scarborough.

**MENOPON** Nitzsch

**gallinae** (L.)—On fowl, *Gallus domesticus*—Scarborough.

**MYRSIDEA** Waterston

**anathorax** (Nitzsch)—On jackdaw, *Corvus monedula spermologus* Vieill.—Scarborough.

**cornicis** (De G.)—On carrion-crow, *Corvus c. corone* L.—High Fordon, -/4/54; Scarborough.

**cucularis** (Nitzsch)—On starling, *Sturnus v. vulgaris* L.—Scarborough.

**isostoma** (Nitzsch)—On rook, *Corvus f. frugilegus* L.—Scarborough.

**picae** (L.)—On magpie, *Pica p. pica* (L.)—Raincliffe Wood.

**ORNITHOBIUS** Denny

**cygni** (L.)—On whooper swan, *Cygnus cygnus* (L.)—Near Scarborough.

**PECTINOPYGUS** Mjoeberg

**bassani** (Fabr., O.)—On gannet, *Sula bassana* (L.)—Scarborough, 2/7/53.

**PERINEUS** Harrison

**nigrolimbatus** (Gieb.)—On fulmar petrel. *Fulmarus g. glacialis* (L.)—Scarborough, -/4/54; Flamborough.

**PHILOPTERUS** Nitzsch

**atratus** Nitzsch—On rook, *Corvus f. frugilegus* L.—Scarborough, 24/2/51; High Fordon, -/4/54.

**cincli** (Denny)—On dipper, *Cinclus cinclus gularis* (Lath.)—Moors near Scarborough.

**fringillae** (Scop.)—On house-sparrow, *Passer d. domesticus* (L.)—Scarborough, 27/12/51.

**guttatus** (Denny)—On jackdaw, *Corvus monedula spermologus* Vieill.—Scarborough; Hackness, 19/7/24.

**\*hamatus** (Pack.)—On snow-bunting, *Plectrophenax n. nivalis* (L.)—Scarborough.

**\*merulae** (Denny)—On blackbird. *Turdus m. merula* L.—Scarborough.

**modularis** (Denny)—On hedge-sparrow, *Prunella modularis* (L.)—Scarborough, 29/7/53.

**ocellatus** (Scop.)—On hooded crow, *Corvus c. cornix* L.—Scarborough.

**picae** (Denny)—On magpie, *Pica p. pica* (L.)—Raincliffe Wood.

**pyrrhulae** (Schr.)=*P. c. citrinellae* (Schr.)—On bullfinch, *Pyrrhula pyrrhula* (L.)—Scarborough.

**turdi** (Denny)—On song-thrush, *Turdus ericetorum* Turton—Scarborough.

**QUADRACEPS** Clay & Meinertzhagen

**alcae** (Denny)—On razorbill, *Alca torda* L.—Scarborough.

**eugrammicus** (Burm.)—On little gull, *Larus minutus* Pall.—Scarborough.

**obliquus** (Mjoeb.)—On guillemot, *Uria aalge* (Pont.)—Filey Brigg, 14/1/51.

**ornatus striolatus** (Nitzsch)—On great black-backed gull, *Larus marinus* L., juvenile—Scarborough, 2/10/53.

**punctatus** (Burm.)—On black-headed gull, *Larus r. ridibundus* L.—Scarborough, -/4/52.

**RICINUS** De Geer

**bombycillae** (Denny)—On waxwing, *Bombycilla g. garrulus* (L.)—Scarborough.

**irascens** (Burm.)—On chaffinch, *Fringilla coelebs* L.—Scarborough.

**SAEMUNDSSONIA** Timmermann

**calva** (Kell.)—On guillemot, *Uria aalge* (Pont.)—Scarborough.

**celidoxa** (Burm.)—On razorbill, *Alca torda* L.—Flamborough.

**cephalus** (Denny)—On Arctic skua, *Stercorarius parasiticus* (L.)—Scarborough.

**fraterculae** (Overg.)—On puffin, *Fratercula arctica* (L.)—Flamborough.

**inexpectata** Timm.—On little gull, *Larus minutus* Pall.—Scarborough. New to science.

**lari breviappendiculata** (Piag.)—On herring gull, *Larus a. argentatus* Pont.—Bempton, 15/4/51; Scarborough, 16/3/53.

**lari congener** (Gieb.)—On common gull, *Larus c. canus* L.—Scarborough, 21/5/52.

**lari gonothorax** (Gieb.)—On great black-backed gull, *Larus marinus* (L.)—Scarborough, on young gull, 22/10/53.

**lari lari** (Fabr., O.)—On glaucous gull, *Larus hyperboreus* Gunn.—Scarborough.

**lari muelleri** Eichl.—On black-headed gull, *Larus r. ridibundus* L.—Scarborough.

**lari tridactylae** Timm.—On kittiwake, *Rissa t. tridactyla* (L.)—Scarborough; Bempton, 18/7/53.

**lari waterstoni** Timm.—On little gull, *Larus minutus* Pall.—Scarborough. New to science.

Miss Clay in litt. says "Although the populations of Mallophaga on these gulls have been named and can for the present time be considered as subspecies, it is probable that further revisionary work will show that some at least are not separable".

**lockleyi** Clay—On Arctic tern, *Sterna macrura* Naumann—Cornelian Bay, 12/9/52.

**occidentalis** (Kell.)—On fulmar petrel, *Fulmarus g. glacialis* (L.)—Scarborough, -/4/54.

**sternae** (L.)—On common tern, *Sterna h. hirundo* L.—Scarborough, -/11/93.

**tringae** (Fabr., O.)—On purple sandpiper, *Calidris m. maritima* (Brunn.)—Scarborough.

**variabilis** (Denny) = **tringae** (Fabr., O.)—On dunlin, *Calidris alpina* (L.)—Scarborough.

**STURNIDOEUCUS** Eichler

**sturni** (Schr.)—On starling, *Sturnus v. vulgaris* (L.)—Scarborough, -/3/52.

**TRICHODECTES** Nitzsch

**canis** (De G.)—On dog, *Canis familiaris* L.—Common.

**ermineae** (Hopk.)—On stoat, *Mustela erminea stabilis* Barr.-Ham. Scarborough.

*melis* (Fabr., J. C.)—On badger, *Meles meles* (L.)—Common.

Badgers found freshly killed have been very heavily infested.

*mustelae* (Schr.)—On weasel, *Mustela n. nivalis* L.—Scarborough.

#### TRINOTON Nitzsch

*anserinum* (Fabr., J. C.)—On goose, *Anser anser* (L.)—Scarborough.

*querquedulae* (L.)—On teal, *Anas c. crecca* L.—Scarborough.

### SIPHUNCULATA—SUCKING LICE

The nomenclature adopted is that of Kloet & Hincks "A Check List of British Insects", 1945.

#### HAEMATOPINIDAE

##### NEOHAEMATOPINUS Mjoeberg

*sciurinus* (Mjoeb.)—On red squirrel, *Sciurus vulgaris leucourus* Kerr, Forge Valley.

##### POLYPLAX Enderlein

*spinulosa* (Burm.)—On brown rat, *Rattus norvegicus* (Ersl.), common in Scarborough District; on water vole, *Arvicola a. amphibius* (L.), Seamer.

##### HOPLOPLEURA Enderlein

*sciuricola* Ferr.—On grey squirrel, *Sciurus carolinensis* Gmel., Forge Valley, Langdale End.

##### LINOGNATHUS Enderlein

*stenopsis* (Burm.)—On dog, *Canis familiaris* L., Scarborough.

*vituli* (L.)—On cattle.

##### HAEMATOPINUS Leach

*asini* (L.)—On domestic ass, *Equus asinus* L., Scarborough; on pony, *Equus caballus* L., Scarborough.

*suis* (L.)—On pig, *Sus scrofa* L., common.

#### PEDICULIDAE

##### PEDICULUS Linnaeus

*humanus* L.—

v. *capitis* De G.—HEAD LOUSE. After a flare-up during the 1939-45 war the number of children affected is steadily declining and grossly infested heads are not at all common. With better standards and more efficient remedies the head louse should soon become a thing of the past.

v. *corporis* De G.—BODY LOUSE. This and the following committant of human degradation are rarely found nowadays. There has only been one case of v. *corporis* in a schoolchild reported during the past 20 years.

#### PHTHIRIDAE

##### PHTHIRUS Leach

*pubis* (L.)—CRAB LOUSE. Apparently almost extinct.

## Order EPHEMEROPTERA — MAYFLIES

## H. Whitehead

The first list of Mayflies found in Yorkshire was published in the "Entomologists' Monthly Magazine" in 1927. More recent records have been given in the "Naturalist" and in the "Transactions of the Yorkshire Naturalists' Union," Part 36 (1945).

This list is very incomplete as several common species which one would expect to find in the district have not yet been recorded. Most of the species given spend their nymphal stages in rapid streams.

The common names given are those used by fly-fishermen.

## The recorders are :

H.B.—H. Britten, fil.

G.B.W.—G. B. Walsh

J.M.B.—J. M. Brown

H.W.—H. Whitehead

E.P.—E. Percival

## EPHEMERIDAE

## EPHEMERA Linnaeus

*vulgata* L.—Scalby Sea Cut, 20/6/41, (H.W.).

*danica* Muell.—"The Mayfly," male imago—"Black Drake," female imago—"Grey Drake," sub-imago—"Green Drake." Fylinghall, 17/6/39, Ramsdale, 25/6/37, Oxbank Wood, 1/7/37, Brockets, 14/6/38, (J.M.B.); Helwath Beck, 6/6/37, (H.B.); Pickering, 6/6/24, (H.W.); Forge Valley, (G.B.W.).

## LEPTOPHLEBIIDAE

## LEPTOPHLEBIA Westwood

*marginata* (L.)—Jugger Beck, (E.P.).

## PARALEPTOPHLEBIA Lestage

*submarginata* (Steph.)—Sub-imago—"Turkey Brown." Mill Beck, (E.P.); Brockets, 3/7/39, (J.M.B.).

*cincta* (Retz.)—Brockets, 5/10/37, (J.M.B.).

## HABROPHLEBIA Eaton

*fusca* (Curt.)—Brockets, 2/7/37, (J.M.B.); Pickering, 2/8/41, (H.W.).

## EPHEMERELLIDAE

## EPHEMERELLA Walsh

*ignita* (Poda)—Imago—"Sherry Spinner," sub-imago—"Blue-winged Olive." Brockets, 2/7/37, (J.M.B.); Pickering, 2/8/41, Goathland, 12/7/46, (H.W.).

## BAETIDAE

## BAETIS Leach

*scambus* Eat.—Goathland, 30/9/37, (H.B.).

*rhodani* (Pict.)—Imago—"Red Spinner," sub-imago—"Large Dark Olive." Stainton Dale, (E.P.); Littlebeck, 4/34, (sub-imago), Oxbank Wood, 1/7/37, Ramsdale, 14/6/37, (J.M.B.); Pickering, 6/6/42, (H.W.); Goathland, 30/9/37, Hole of Horcum, 27/6/37, (H.B.); Forge Valley, (G.B.W.).

*pumilus* (Burm.)—Ramsdale, 14/10/37, Oxbank Wood, 1/7/37, Brockets, 29/9/37, Maw Wyke, 12/6/38, (J.M.B.) ; Pickering, 2/8/41, (H.W.).

**CENTROPTILUM** Eaton

*luteolum* (Muell.)—Fylinghall, 12/9/36, Oxbank Wood, 1/7/37, (J.M.B.) ; Goathland, 2/9/47, (H.W.).

*pennulatum* Eat.—East Row, 20/9/36, Fylinghall, 12/9/36, (J.M.B.).

**PROCLOEON** Bengtsson

*rufulum* (Muell.)—East Row, 20/9/36, (J.M.B.) ; Pickering, 2/8/41, (H.W.) ; Hayburn Wyke, (G.B.W.).

**ECDYONURIDAE**

**RHITHROGENA** Eaton

*semicolorata* (Curt.)—Imago—"Yellow Upright." Mill Beck, (E.P.) ; Fylinghall, 20/6/36, Oxbank Wood, 14/9/36, Howdale, 12/6/37, Ramsdale, 14/6/37, Brockets, 26/4/38, Maw Wyke, 12/6/38, (J.M.B.) ; Pickering, 6/6/42, Dalby Beck, 7/6/41, (H.W.).

**HEPTAGENIA** Walsh

*lateralis* (Curt.)—Mill Beck, (E.P.) ; Maw Wyke, 25/6/37, Brockets, 2/7/37, Fylinghall, 23/8/39, (J.M.B.).

**ECDYONURUS** Eaton

*venosus* (Fabr.)—Sub-imago—"False March Brown." Fylinghall, 20/6/36, Bay Town, 21/6/38, Brockets, 27/5/40, Oxbank Wood, 12/6/40, (J.M.B.) ; Goathland, 2/9/47, (H.W.).

*dispar* (Curt.)—Sub-imago—"August or Autumn Dun." Fylinghall, 22/9/36, Oxbank Wood, 1/10/37, Brockets, 28/9/37, (J.M.B.) ; Goathland, 2/9/47, (H.W.).

**Order ODONATA**

**DRAGON FLIES and DAMSEL-FLIES**

G. B. Walsh

The following initials are used :—

J.M.B.—J. M. Brown

W.J.C.—W. J. Clarke

H.W.D.—H. W. Dobson

G.T.P.—G. T. Porritt

T.N.R.—T. N. Roberts

A.S.T.—A. S. Tetley

E.A.W.—E. A. Wallis

G.B.W.—G. B. Walsh

**ZYGOPTERA**

**COENAGRIIDAE**

**PYRRHOSOMA** Charpentier

*nymphula* (Sulz.)—**LARGE RED DAMSEL-FLY.** One specimen at Langdale End, 1912 (A.S.T.) ; several up Bloody Beck, 1913 (E.A.W.) ; Robin Hood's Bay (J.M.B.).



**ISCHNURA** Charpentier

**elegans** (v.d. Lind.)—COMMON ISCHNURA. Scarborough Mere, 29/6/13—27/7/13 (T.N.R.) ; Filey, 6/14 (G.T.P.) ; Robin Hood's Bay (J.M.B.).

**pumilio** (Charp.)—SCARCE PUMILIO. Scarborough Mere, 22/6/13 (T.N.R.).

**ENALLAGMA** Charpentier

**cyathigerum** (Charp.)—COMMON BLUE DAMSEL-FLY. Common and somewhat variable. Occurs near many of the permanent pools in the district.

**COENAGRION** Kirby, W. F.

**puellum** (L.)—COMMON COENAGRION. Common.

## AGRIIDAE

**AGRION** Fabricius

**virgo** (L.)—DEMOISELLE. Common and at times abundant in the Derwent at Langdale End, Hilla Green and Forge Valley; common in Low North Beck at Barns Cliff (G.B.W.) ; abundant, Newton Dale, Jugger Beck (E.A.W.) ; Pickering (Y.N.U. Excn., 1946).

**splendens** (Harris, M.)—BANDED AGRION. Very local, Ganton (E.A.W.).

## ANISOPTERA

## CORDULEGASTRIDAE

**CORDULEGASTER** Leach

**boltonii** (Don.)—GOLDEN-RINGED DRAGON-FLY. Fairly common along the banks of moorland streams. Occasionally it comes down to the lowlands, and on 12/10/49 (a very hot year), a pair were seen flying round Mr. H. W. Dobson's ornamental fish-pond in Stepney Drive, Scarborough.

## AESHNIDAE

**AESHNA** Fabricius

**junceae** (L.)—COMMON AESHNA. Somewhat local ; Ravenscar (G.B.W.) ; Robin Hood's Bay (J.M.B.) ; Langdale, Bloody Beck (E.A.W.).

**cyanea** (Muell., O. F.)—SOUTHERN AESHNA. Scarborough (G.T.P., in Vict. County Hist.) ; Throxenby Mere (G.B.W.).

## LIBELLULIDAE

**LIBELLULA** Linnaeus

**quadrifasciata** L.—FOUR-SPOTTED LIBELLULA. Stepney, 18/4/13 (T.N.R.) ; Forge Valley (G.B.W.).

**depressa** L.—BROAD-BODIED LIBELLULA. Scarborough (G.T.P.) ; two m. and one f. at Langdale End, 2/6/47 (E.A.W.) ; Forge Valley (G.B.W.).

**SYMPETRUM** Newman

**striolatum** (Charp.)—COMMON SYMPETRUM. Occasional ; Throxenby Mere, 11/10/35 (G.B.W.) ; Scarborough, 12/10/49 (H.W.D.) ; Robin Hood's Bay (J.M.B.).

**LEUCORRHINIA** Brittinger

**dubia** (v.d. Lind.)—**WHITE-FACED DRAGON-FLY**. In June, 1900, many thousands of this rare dragon-fly were seen coming in from the sea at Scarborough; they were seen from the South Cliff to as far north as Cloughton (W.J.C.). They were identified by an expert of the "Field." Miss Cynthia Longfield does not record it as a migrant in her "Dragonflies of the British Isles," 1937.

**Order THYSANOPTERA****THRIPS, BLACK FLY**

G. B. Walsh

There are about 200 known British species of this little-known order of minute insects; but no systematic work has been done on them locally, largely owing to the lack of a textbook of diagnostic tables.

They are common enough and, though some few are agricultural pests, the authorities report that few species, if any, do damage of importance to forest trees. We are much indebted to Mr. H. W. Thompson for his help in compiling this list.

**AEOLOTHRIPIDAE****AEOLOTHRIPS** Haliday

**nobilis** Priesn.—By sweeping, Fylingdales Moor (G.B.W.).

**THRIPIDAE****HELIOTHRIPS** Haliday

**haemorrhoidalis** (Bouché)—**GREENHOUSE THRIPS**. Common under glass (H.W.T.).

**LIMOTHRIPS** Haliday

**denticornis** Hal.—**CORN THRIPS**. Common and widely distributed (H.W.T., G.B.W.).

**cerealium** Hal.—**CORN THRIPS**. Common and widely distributed, and at times a pest (H.W.T., G.B.W.).

**APTINOTHRIPS** Haliday

**rufus** (Gmel. in L.)—**GRASS THRIPS**. Not uncommon (H.W.T.).

**stylifer** Tryb.—Not uncommon on grasses (H.W.T.).

**ODONTOTHRIPS** Amyot & Serville

**ulicis** (Hal.)—Abundant and generally distributed on **Ulex** (G.B.W.).

**KAKOTHRIPS** Williams

**robustus** (Uzel)—**PEA THRIPS**. On garden peas, runner beans and sweet peas. At times a troublesome pest which it is not easy to eradicate (G.B.W.).

**AMBLYTHRIPS** Bagnall

**ericae** (Hal.)—By sweeping, Fylingdales Moor and Scalby High Moor (G.B.W.).

**TAENIOTHRIPS** Amyot & Serville

**vulgatissimus** (Hal.)—On **Brassica**, **Beta**, **Rumex**, **Prunus** and **Pyrus** (H.W.T.).

**atratus** (Hal.)—**CARNATION THRIPS**. Common (H.W.T., G.B.W.).

**inconsequens** (Uzel)—**PEAR THRIPS**. Occasional (H.W.T., G.B.W.).

**picipes** (Zett.)—Abundant on flowers of **Primula vulgaris** in the spring (G.B.W.).

**THRIPS** Linnaeus

**fuscipennis** Hal.—**ROSE THRIPS**. On the flowering plants (H.W.T.).

**tabaci** Lind.—**ONION THRIPS**. Not uncommon on **Compositae**, etc., and in glasshouses (H.W.T.).

**angusticeps** Uzel—On **Brassica**, **Taraxacum**, etc. (H.W.T.).

**HAPLOTHRIPS** Amyot & Serville

**senecionis** Bagn.—On **S. jacobaea** and **S. aquaticus** (H.W.T.).

## Order HEMIPTERA — PLANT BUGS

G. B. Walsh

A fair amount of collecting Hemiptera has been done in the area, chiefly by H. Britten fil. in the north and west, and the late James Meikle Brown near Robin Hood's Bay, and the author in the Scarborough district; but much remains to be done, notably in the little-worked and obscurer groups outside the Heteroptera.

Our best thanks are due to Dr. W. E. China for his kind help and advice in the compilation of this list.

The following initials are used :—

E.A.B.	E. A. Butler	W.J.F.	W. J. Fordham
H.B.	H. Britten fil.	E.C.H.	E. C. Horrell
J.M.B.	J. M. Brown	R.L.	R. Lawson
H.J.B.	H. J. Burkill	M.L.T.	M. L. Thompson
W.F.	W. Falconer	G.B.W.	G. B. Walsh
W.W.F.	W. W. Fowler	T.W.	T. Wilkinson

## Sub-Order HETEROPTERA—Plant Bugs

The nomenclature used for the Heteroptera is that of Kloet and Hincks' "A Check List of British Insects", 1945.

## Series POLYNEURIA

## PENTATOMIDAE

**PALOMENA** Mulsant & Rey

**prasina** (L.)—Rare; Sleights (H.B.).

**PIEZODORUS** Fieber*lituratus* (Fabr.)—Common on gorse in many localities.**PENTATOMA** Olivier*rufipes* (L.)—Widely distributed and often common.**ZICRONA** Amyot & Serville*caerulea* (L.)—Widely distributed all over the moors, but not common.

## ACANTHOSOMIDAE

**ACANTHOSOMA** Curtis*haemorrhoidale* (L.)—Common.**ELASMOTETHUS** Fieber*interstinctus* (L.)—Common.**ELASMUCHA** Stal*grisea* (L.)—Local; Hole of Horcum, Helwath Beck (H.B.).

## COREIDAE

**ENOPLOPS** Amyot & Serville*scapha* (Fabr.)—Scarborough on *Ononis* (T.W., G.B.W.); Hayburn Wyke (H.B.); Robin Hood's Bay (J.M.B.).**ALYDUS** Fabricius*calcaratus* (L.)—Scarborough (T.W.). This is the only Yorkshire record and needs confirmation.**MYRMUS** Hahn*miriformis* (Fall.)—Pickering (G.B.W.).Series **PHLOEOBIOTICA**

## ARADIDAE

**ARADUS** Fabricius*depressus* (Fabr.)—Beckhole (H.B.).Series **ONYCHIOPHORA**

## LYGAEIDAE

**MACROPARIUS** Stal*thymi* (Wolff, J. F.)—Fylingdales Moor (H.B.).**CYMUS** Hahn*glandicolor* Hahn—Levisham (H.B.).**KLEIDOCERYS** Stephens*ericae* Horv.—Very common on all the moors of the district.**MACRODEMA** Fieber*micropterum* (Curt.)—Silpho Moor (E.C.H.); Ravenscar, Hazel Beck (H.B.).**PLINTHISUS** Stephens*brevipennis* (Latr.)—Cloughton (E.C.H.).**STYGNOCORIS** Douglas & Scott*rusticus* (Fall.)—Near Sleights (M.L.T.).*pedestris* (Fall.)—At plant roots, Robin Hood's Bay (J.M.B.); Levisham, Hole of Horcum (H.B.).

**TRAPEZONOTUS** Fieber*arenarius* (L.)—Common and widely distributed.**DRYMUS** Fieber*sylvaticus* (Fabr.)—Common.var. *ryei* Doug. & Scott—Under *Calluna*, Ramsdale (J.M.B.).*brunneus* (Sahlb., R. F.)—Apparently not common; Hayburn Wyke (G.B.W.); Ramsdale, a single specimen (J.M.B.).*piceus* (Flor)—Scarborough (R.L.).**TAPHROPELTUS** Stal*contractus* (Herr.-Sch.)—Ravenscar (J.M.B.).**SCOLOPOSTETHUS** Fieber*affinis* (Schill.)—Probably common, though there are few records.*thomsoni* Reut.—Forge Valley, Hayburn Wyke (G.B.W.); Beckhole (H.B.).*decoratus* (Hahn)—Common under *Calluna*.**GASTRODES** Westwood*grossipes* (De G.)—Silpho Moor, Raincliffe Wood (G.B.W.).  
Probably widely distributed.**Series ANONYCHIA****PIESMIDAE****PIESMA** Lepeletier & Serville*maculata* (Cast.)—Egton Bridge (H.B.).**TINGIDAE****ACALYPTA** Westwood*brunnea* (Germ.)—Scarborough in moss on tree trunks in winter and spring (T.W.).**TINGIS** Fabricius**S. LASIOTROPIS** Stal*reticulata* Herr.-Sch.—Scarborough (R.L.).**S. TINGIS** s.s.*cardui* (L.)—Common on thistles.**REDUVIIDAE****EMPICORIS** Wolff, J. F.*culiciformis* De G.—Local; Raincliffe Wood (G.B.W.).**NABIDAE****NABIS** Latreille**S. NABIS** s.s.*ferus* (L.)—Stony Marl Moor, Forge Valley (G.B.W.); Raincliffe Wood, Beedale (E.C.H.).*flavomarginatus* Scholtz—Staintondale (W.J.F.); Seamer (G.B.W.); Ramsdale, Robin Hood's Bay, the rare macropterous form, 11/7/43 (J.M.B.).*rugosus* (L.)—Widely distributed.*ericetorum* Scholtz—Common among *Calluna*.*brevis* Scholtz—Sleights (H.B.).**S. DOLICHONABIS** Reuter*limbatus* Dahlb.—Common and widely distributed.

## CIMICIDAE

**CIMEX** Linnaeus

**lectularius** L.—Only too common in houses and ships.

**columbarius** Jenyns—Common in dovecote, Scarborough (G.B.W.).

## ANTHOCORIDAE

**TEMNOSTETHUS** Fieber

**pusillus** (Herr.-Sch.)—Common and widely distributed, chiefly the brachypterous form.

**ELATOPHILUS** Reuter

**nigricornis** (Zett.)—Sleights (H.B.).

**ANTHOCORIS** Fallén

**confusus** Reut.—Common.

**memoralis** (Fabr.)—Common.

**sarothamni** Doug. & Scott—Ravenscar (J.M.B.).

**memorum** (L.)—Common, will "bite" at times.

**TETRAPHLEPS** Fieber

**bicuspis** (Herr.-Sch.)—Forge Valley, Silpho Moor (G.B.W.); Levisham (H.B.); Fylinghall (J.M.B.).

**ACOMPOCORIS** Reuter

**pygmaeus** (Fall.)—Common and widely distributed.

**ORIUS** Wolff, J. F.

**majusculus** (Reut.)—Levisham, Beckhole (H.B.).

**LYCTOCORIS** Hahn

**campestris** (Fabr.)—Common and generally distributed.

**XYLOCORIS** Dufour

**cursitans** (Fall.)—Egton Bridge (H.B.).

## LORICULIDAE

**LORICULA** Curtis

**pselaphiformis** Curt.—Egton (J.M.B.).

**elegantula** (Baer.)—Widely distributed and common on tree trunks in the Robin Hood's Bay area from August to October, 1940; all female specimens (J.M.B.).

## MIRIDAE

**PITHANUS** Fieber

**märkeli** (Herr.-Sch.)—Robin Hood's Bay (J.M.B.); not common.

**PANTILIUS** Curtis

**tunicatus** (Fabr.)—Widely distributed.

**PHYTOCORIS** Fallén

**tiliae** (Fabr.)—Rather common and generally distributed.

**longipennis** Flor — Seamer Moor (W.J.F.); Raincliffe Wood (G.B.W.); Levisham, Goathland (H.B.).

**pini** Kirschb.—Seamer Moor (G.B.W.); Ramsdale (J.M.B.).

**varipes** Boh.—Hayburn Wyke (G.B.W.); Ravenscar (H.B.).

**ulmi** (L.)—Hayburn Wyke (G.B.W.); Robin Hood's Bay (J.M.B.).

**MEGACOELUM** Fieber

**infusum** (Herr.-Sch.)—Randymere (H.B.); occasional on oak, Ravenscar (J.M.B.).

**ADELPHOCORIS** Reuter*seticornis* (Fabr.)—Filey (W.W.F.).**CALOCORIS** Fieber*ochromelas* (Gmel.)—Common.*sexguttatus* (Fabr.) v. *insularis* Reut.—Common on nettles.*alpestris* (Meyer-Duer)—Common in Raincliffe Wood and Forge Valley (G.B.W.); less common, Oxbank Wood (J.M.B.).*roseomaculatus* (De G.)—Robin Hood's Bay, plentiful on *Centaurea* (J.M.B.).*norvegicus* (Gmel.)—Scarborough (G.B.W.); Ravenscar (H.B.).**MIRIS** Fabricius*striatus* (L.)—Oaks, Oxbank Wood, Ramsdale (J.M.B.).**DICHROOSCYTUS** Fieber*rufipennis* (Fall.)—Ramsdale (J.M.B.).**LYGUS** Hahn**S. LYGUS** s.s.*pabulinus* (L.)—Hayburn Wyke, Forge Valley (G.B.W.).**S. NEOLYGUS** Knight*viridis* (Fall.)—Forge Valley on *Filipendula ulmaria*, Hayburn Wyke on nettles (G.B.W.); Robin Hood's Bay (J.M.B.).*contaminatus* (Fall.)—Hayburn Wyke (G.B.W.); common at Robin Hood's Bay (J.M.B.).*spinolae* (Meyer-Duer)—Grosmont (J.M.B.).*lucorum* (Meyer-Duer)—Goathland (H.B.).*rubricatus* (Fall.)—Seamer Moor (G.B.W.); Hole of Horcum, Sleights (H.B.).*cervinus* (Herr. Sch.)—Scarborough (T.W.); Ramsdale, Ravenscar (J.M.B.).**EXOLYGUS** Wagner, E,*pratensis* (L.)—Very common.**S. ORTHOPS** Fieber*campestris* (L.)—Scarborough (T.W.).*kalmii* (L.)—Forge Valley (G.B.W.); Egton Bridge (H.B.).**PLESIOCORIS** Fieber*rugicollis* (Fall.)—Forge Valley, Seamer (G.B.W.); common on sallow, Fylinghall, Robin Hood's Bay (J.M.B.).**CAMPTOZYGUM** Reuter*pinastri* (Fall.)—Hole of Horcum (H.B.).**CHARAGOSCHILUS** Fieber*gyllenhalii* (Fall.)—Levisham, Beckhole (H.B.).**LIOCORIS** Fieber*tripustulatus* (Fabr.)—Common and generally distributed.**RHOPALOTOMUS** Fieber*ater* (L.)—Common.**STENODEMA** Laporte de Castelnau**S. BRACHYSTIRA** Fieber*calcaratum* (Fall.)—Common.**S. STENODEMA** s.s.*laevigatum* (L.)—Scarborough (T.W., G.B.W.); Fylinghall*holsatum* (Fabr.)—Common. (J.M.B.).



**TRIGONOTYLUS** Fieber*ruficornis* (Geoffr.)—Common among grass.**TERATOCORIS** Fieber*viridis* Doug. & Scott—Robin Hood's Bay, Hole of Horcum, Fylingdales Moor, Levisham, Helwath Beck (H.B.).*saundersi* Doug. & Scott—Sleights (M.L.T.).**LEPTOPTERNA** Fieber*ferrugata* (Fall.)—Common.*dolabrata* (L.)—Common.**MONALOCORIS** Dahlbom*filicis* (L.)—Abundant and generally distributed.**BRYOCORIS** Fallén*pteridis* (Fall.)—Plentiful, both long- and short-winged forms.**DICYPHUS** Fieber*constrictus* (Boh.)—Raincliffe Wood (G.B.W.); Robin Hood's Bay (J.M.B.).*epilobii* Reut.—Common on *Epilobium*.*errans* (Wolff, J. F.)—Scarborough (T.W.).*stachydis* Reut.—Plentiful.*pallidicornis* (Fieb.)—Cloughton (G.B.W.); Sleights (H.B.).*globulifer* (Fall.)—Scarborough (T.W.); Raincliffe Wood (G.B.W.); Beckhole (H.B.).*annulatus* (Wolff, J. F.)—Scarborough (G.B.W.).**CAMPYLONEURA** Fieber*virgula* (Herr.-Sch.)—Common.**CYLLECORIS** Hahn*histrionicus* (L.)—Common and generally distributed.**DRYOPHILOCORIS** Reuter*flavoquadrimaculatus* (De G.)—Widely distributed, but not as common as the last.**BLEPHARIDOPTERUS** Kolenati*angulatus* (Fall.)—Common.**GLOBICEPS** Lepeletier & Serville*dispar* (Boh.)—At roots of rushes on moor above Raw (J.M.B.).**MECOMMA** Fieber*ambulans* (Fall.)—Common.**CYRTORHINUS** Fieber*caricis* (Fall.)—At roots of rushes, widely distributed.**ORTHOTYLUS** Fieber*nassatus* (Fabr.)—Rare; one specimen at Fylinghall, 15/9/36 (J.M.B.).*prasinus* (Fall.)—Brockets, Robin Hood's Bay (J.M.B.).**MELANOTRICHUS** Reuter*virescens* (Doug. & Scott)—Common on *Sarothamnus*.*adenocarp* (Perr.)—On *Sarothamnus*, Grosmont (J.M.B.); Hayburn Wyke (G.B.W.).*ericetorum* (Fall.)—Common on *Calluna*.

**CAPSUS** Fabricius

*meriopterus* (Scop.)—Raw, on mint in garden, Robin Hood's Bay (J.M.B.).

**HETEROCORDYLUS** Fieber

*leptocerus* (Kirschb.)—Common on *Sarothamnus*.

**MALACOCORIS** Fieber

*chlorizans* (Panz.)—Common on hazel.

**ORTHOCEPHALUS** Fieber

*mutabilis* (Fall.)—Forge Valley (G.B.W.).

**STRONGYLOCORIS** Blanchard

*leucocephalus* (L.)—Scarborough, abundant on cliffs on short grass and *Vicia cracca* in July (T.W.).

**CONOSTETHUS** Fieber

*roseus* (Fall.)—Scarborough (T.W.).

**MACROTYLUS** Fieber

*paykulli* (Fall.)—Scarborough (T.W.); Burniston Bay (G.B.W.); Robin Hood's Bay (J.M.B.).

**HARPOCERA** Curtis

*thoracica* (Fall.)—Forge Valley (G.B.W.); Howdale, Ramsdale

**ORTHONOTUS** Stephens

(J.M.B.).

*rufifrons* (Fall.)—Ramsdale (J.M.B.).

**PHYLUS** Hahn

*palliceps* Fieb.—Brockets (J.M.B.).

*coryli* (L.)—Brockets (J.M.B.).

**PSALLUS** Fieber

*ambiguus* (Fall.)—Forge Valley, Hayburn Wyke (G.B.W.); Robin Hood's Bay (J.M.B.).

*betuleti* (Fall.)—Scarborough (T.W.); Fylinghall, Brockets (J.M.B.).

*variabilis* (Fall.)—Common.

*lepidus* Fieb.—Spring Hill, Robin Hood's Bay (J.M.B.).

*alnicola* Doug. & Scott—Fylinghall (J.M.B.); Grosmont, Hole of Horcum (H.B.).

*falleni* Reut.—Forge Valley, Seamer Moor, Hayburn Wyke (G.B.W.).

*varians* (Herr.-Sch.)—Raincliffe Wood (G.B.W.).

*roseus* (Fabr.)—Widely distributed.

*salicellus* (Meyer-Duer)—Sleights, Helwath Beck (H.B.).

**ATRACTOTOMUS** Fieber

*magnicornis* (Fall.)—Seamer Moor, Forge Valley, Cloughton (G.B.W.); Goathland, Ramsdale (J.M.B.).

**PLAGIOGNATHUS** Fieber

*albipennis* (Fall.)—Forge Valley (G.B.W.).

*chrysanthemi* (Wolff, J. F.)—Widely distributed and common.

*arbustorum* (Fabr.)—Very common.

**CHLAMYDATUS** Curtis

*wilkinsoni* (Doug. & Scott)—Scarborough (T.W.).

**ASCIODEMA** Reuter

*obsoletum* (Fieb.)—Common on *Ulex*.

**Series TRICHOTELOCERA****CRYPTOSTEMMATIDAE****CRYPTOSTEMMA** Herrich-Schaeffer

**alienum** Herr.-Sch.—Scarborough (T.W.); fairly common in shingle beds of the R. Derwent at Hilla Green and of other streams (G.B.W.).

**Series HYDROBIOTICA****HYDROMETRIDAE****HYDROMETRA** Latreille

**stagnorum** (L.)—Seamer Carr (E.C.H.).

**GERRIDAE****GERRIS** Fabricius

**costae** (Herr.-Sch.)—Uncommon; only on moorland pools above Robin Hood's Bay (J.M.B.); Hole of Horcum, Goathland (H.B.).

**thoracicus** Schumm.—Somewhat uncommon; not on moorland pools, but on both running and standing water, Fylingdales, Stoup Beck (J.M.B.).

**gibbifer** Schumm.—Seamer Moor (W.J.F.); commonest species of the genus in Fylingdales (J.M.B.).

**lacustris** (L.)—Throxenby Mere (E.C.H.); Seamer Moor (G.B.W.); somewhat uncommon, Fylingdales (J.M.B.).

**odontogaster** (Zett.)—Goathland (H.B.).

**argentatus** Schumm.—Goathland (H.B.).

**VELIIDAE****MICROVELIA** Westwood

**reticulata** (Burm.)—Seamer Moor (E.C.H.).

**VELIA** Latreille

**caprai** Tam.—Very common on streams.

**SALDIDAE****SALDA** Fabricius

**muelleri** Gmel.—Scarborough (R.L.); Goathland under **Calluna**, one example (J.M.B.).

**SALDULA** Van Duzee

**scotica** (Curt.)—Helwath Beck (H.B.).

**orthochila** (Fieb.)—Harwood Dale (G.B.W.).

**saltatoria** (L.)—Common.

**c-album** (Fieb.)—Common.

**CHARTOSCIRTA** Stal

**cincta** (Herr.-Sch.)—Fylingdales, Robin Hood's Bay (J.M.B.).

**cocksii** (Curt.)—Ringing Keld Bog (E.C.H.).

**NEPIDAE****NEPA** Linnaeus

**cinerea** L.—Somewhat uncommon.

**NOTONECTIDAE****NOTONECTA** Linnaeus

**glauca** L.—Common, but less so on the moors.

**obliqua** Gall.—Fairly common.

**maculata** Fabr.—Very rare; Fylingdales (J.M.B.).

## Series SANDALIORHYNCHA

## CORIXIDÆ

**GLAENOCORISA** Thomson, C. G.

*propinqua* (Fieb.)—On the moors above Robin Hood's Bay (J.M.B.).

**CORIXA** Geoffroy

**S. VERMICORIXA** Walton

*lateralis* Leach—Evan Howe Pond, Robin Hood's Bay (J.M.B.).

*nigrolineata* (Fieb.)—Common.

*concinna* (Fieb.)—Rare; Fylingdales (J.M.B.).

**S. CALLICORIXA** White.

*præusta* (Fieb.)—Ugthorpe Moor (H.B.); not common, Fylingdales (J.M.B.).

*wollæstoni* (Doug. & Scott)—Common, especially on the moorland, but also at much lower elevations, Fylingdales (J.M.B.).

**S. RETROCORIXA** Walton

*venusta* (Doug. & Scott)—On the moors in *Sphagnum* pools (J.M.B.).

*limitata* (Fieb.)—Uncommon; Fylingdales (J.M.B.).

**S. SUBSIGARA** Stichel

*scotti* (Fieb.)—Rare; Fylingdales (J.M.B.).

*fossarum* Leach—Goathland (H.B.).

*distincta* (Fieb.)—Rare; Fylingdales (J.M.B.).

**S. HALICORIXA** Walton

*stagnalis* Leach—Biller Howe Dale (G.B.W.).

**S. ARCTOCORISA** Wallengren

*germari* (Fieb.)—Moors above Robin Hood's Bay, 9/10/43 (J.M.B.).

**S. HESPEROCORIXA** Kirkaldy

*castanea* (Thoms., C. G.)—Moors above Robin Hood's Bay, 8/10/43 (J.M.B.).

*moesta* (Fieb.)—East Ayton (G.B.W.); Fylingdales (J.M.B.).

*linnei* (Fieb.)—Robin Hood's Bay, Fylingdales, very rare (J.M.B.).

*sahlbergi* (Fieb.)—Howdale, abundant Fylingdales (J.M.B.).

**S. CORIXA** s.s.

*punctata* (Ill.)—Abundant at Ravenscar (G.B.W.); common, Robin Hood's Bay area (J.M.B.).

*dentipes* (Thoms., C. G.)—Very rare; one specimen, Fylingdales (J.M.B.).

**MICRONECTA** Kirkaldy

*minutissima* (L.)—Scarborough (R.L.); Scalby Beck, plentiful among confervæ at mouth (G.B.W.); Robin Hood's Bay, in enormous numbers in the muddy shallows of Brockets Beck (J.M.B.).

### Sub-order HOMOPTERA—Frog Hoppers, Leaf Hoppers etc.

The classification of the Homoptera, with the exception of the Chermidae (Psyllidae) is that of Dr. W. E. China, A Check List of the British Hemiptera Auchenorrhyncha, Ent. Mon. Mag., 86, 1950, pp. 243-251.

## Series AUCHENORHYNCHA

## CERCOPIDAE

## APHROPHORA Germar

*spumaria* (L.)—Common and generally distributed.

## PHILAENUS Stal

*leucophthalmus* (L.)—Abundant and in great variety. A pink form occurs on *Calluna* near the Falcon Inn.

## NEOPHILAENUS Haupt

*lineatus* (L.)—Common and generally distributed.

## MEMBRACIDAE

## CENTROTUS Fabricius

*cornutus* (L.)—Rare; on the railway banks above Pickering (G.B.W.).

## CICADELLIDAE

## ULOPA Fallén

*reticulata* (Fabr.)—Common on *Calluna* on the moors.

## MEGOPHTHALMUS Curtis

*scanicus* (Fall.)—Robin Hood's Bay (J.M.B.); Hayburn Wyke (G.B.W.).

## TETTIGELLA China &amp; Fennah

*viridis* (L.)—Common by sweeping in damp places.

forma *arundinis* (Germ.)—Biller Howe Dale (G.B.W.).

## EVACANTHUS Lepeletier &amp; Serville

*interruptus* (L.)—Common.

## IDIOCERUS Lewis, R. H.

*stigmatalis* Lew., R. H.—Sleights, Grosmont, etc. (J.M.B.).

*lituratus* (Fall.)—Levisham, Goathland (H.B.); Robin Hood's Bay, very common (J.M.B.).

*elegans* Flor—Sleights (H.B.); Hayburn Wyke (G.B.W.).

*confusus* Flor—Common and widely distributed.

*albicans* Kirschb.—Sleights (J.M.B.); Hayburn Wyke (G.B.W.).

## IASSUS Fabricius

*lanio* (L.)—Common.

## ONCOPSIS Burmeister

*alni* (Schr.)—Common on alders.

*flavicollis* (L.)—Common on birch.

*tristis* (Zett.)—Widely distributed.

## AGALLIA Curtis

*puncticeps* (Germ.)—Raincliffe Wood, Cayton Bay, Pickering (G.B.W.).

*brachyptera* (Boh.)—North Cliff, Scarborough in newly-cut grass at end of June (T.W.); East Ayton in cut grass. (G.B.W.).

## ANACERATAGALLIA Zachvatkin

*ribauti* Oss.—Grosmont, Levisham (H.B.).

## EUPELIX Germar

*cuspidata* (Fabr.)—At roots of grass, Ramsdale, Howdale, Robin Hood's Bay (J.M.B.).

**APHRODES** Curtis

- bicinctus* (Schr.)—Common and widely distributed.  
*bifasciatus* (L.)—Common and widely distributed at roots of *Calluna*.  
*tricinctus* Curt.—Hole of Horcum, Levisham (H.B.).  
*albifrons* (L.)—Common, especially at roots of *Calluna*.  
*flavostriatus* (Don.)—Scalby (G.B.W.).

**DORATURA** Sahlberg, J.

- stylata* (Boh.)—Robin Hood's Bay, Howdale (J.M.B.).

**DELTOCEPHALUS** Burmeister

- pulicaris* (Fall.)—Robin Hood's Bay (J.M.B.).

**TURRUTUS** Ribaut

- socialis* (Flor)—Not common, Danes Dyke (J.M.B.).

**ERRASTUNUS** Ribaut

- ocellaris* (Fall.)—Forge Valley (G.B.W.); Sleights (H.B.); Goathland, Robin Hood's Bay (J.M.B.).

**ADARRUS** Ribaut

- multinotatus* (Boh.)—Recorded from "N.E. Yorks." (E.A.B.).

**JASSARGUS** Zachvatkin

- pseudocellaris* (Flor)—Plentiful in both forms in Robin Hood's Bay district (J.M.B.); Hole of Horcum (H.B.).

**ARTHALDEUS** Ribaut

- pascuellus* (Fall.)—Pickering, East Ayton (G.B.W.).

**PSAMMOTETTIX** Haupt

- confinis* (Dahlb.)—Plentiful among grass, Danes Dyke (J.M.B.).

**ALLYGUS** Fieber

- mixtus* (Fabr.)—Ramsdale, Brockets, on ivy, Fylinghall (J.M.B.); Helwath Beck (H.B.).

**EUSCELIS** Brullé

- lineolatus* Brullé—Filey (W.J.F.); among grass near Robin Hood's Bay (J.M.B.); Grosmont (H.B.).

- plebejus* (Fall.)—Common.

- obsoletus* (Kirschb.)—Near the Falcon Inn (W.J.F.).

- var. *piceus* Scott—Scarborough (T.W.).

**STREPTANUS** Ribaut

- sordidus* (Zett.)—Forge Valley (G.B.W.).

- marginatus* (Kirschb.)—Fylinghall, cliffs at Robin Hood's Bay (J.M.B.).

**HARDYA** Edwards, J.

- melanopsis* (Hardy, J.)—Howdale (J.M.B.).

**MOCYDIA** Edwards, J.

- crocea* (Herr.-Sch.)—Among dry grass, Scalby High Moor (G.B.W.).

**THAMNOTETTIX** Zetterstedt

- confinis* Zett.—Common.

**PSEUDOTETTIX** Ribaut

- subfuscus* (Fall.)—Raincliffe Wood (G.B.W.); Brockets (J.M.B.); Sleights (H.B.).

**LAMPROTETTIX** Ribaut

- octopunctatus* (Schr.)—Not common, Fylinghall (J.M.B.).

**CICADULA** Zetterstedt

*quadrinotata* (Fabr.)—East Ayton, Pickering (G.B.W.); Randymere, Hole of Horcum, Levisham (H.B.).

*quinquenotata* (Boh.)—Seamer (G.B.W.); Robin Hood's Bay (J.M.B.).

*persimilis* (Edw., J.)—Goathland (H.B.); Ramsdale (J.M.B.).

**ELYMANA** De Long

*virescens* (Fabr.)—Common.

**SONRONIUS** Dorst

*quadripunctatus* Fall.—Forge Valley (G.B.W.); fairly plentiful at Robin Hood's Bay (J.M.B.).

**MACROSTELLES** Fieber

*sexnotatus* (Fall.)—Seamer (G.B.W.).

**ERYTHRONEURA** Fitch

*angusta* (Leth.)—Grosmont, Goathland, Brockets (J.M.B.).

var. *rubrinervis* Edw., J.—Rare; Brockets on hawthorn (J.M.B.).

*tiliae* (Geoffr.)—Goathland (H.B.); Fylinghall (J.M.B.).

*flammigera* (Geoffr.)—Common.

*alneti* (Dahlb.)—Cayton Bay (G.B.W.); Helwath Beck (H.B.).

s. sp. *coryli* (Toll.)—Littlebeck (H.B.).

**ZYGINIDIA** Haupt

*scutellaris* (Herr.-Sch.)—Robin Hood's Bay (J.M.B.).

**TYPHLOCYBA** Germar

*cruenta* Herr.-Sch. var. *douglasi* Edw., J.—Common.

*carri* Edw., J.—Fylinghall (J.M.B.); Sleights (H.B.).

*decempunctata* (Fall.)—Sleights, Helwath Beck (H.B.).

*sempunctata* (Fall.)—Common.

*quercus* (Fabr.)—Common.

*bifasciata* Boh.—Common.

*salicicola* (Edw., J.)—Sleights (H.B.).

*callosa* Then var. *distincta* Edw., J.—Forge Valley (G.B.W.).

*rosae* (L.)—Common.

**S. EDWARDSIANA** Jazykov

*avellanae* (Edw., J.)—Sleights (H.B.).

*crataegi* (Dougl.)—Common.

*frustrator* (Edw., J.)—Sleights, Goathland (H.B.).

*geometrica* (Schränk)—Widely distributed.

*lethierryi* (Edw., J.)—Goathland (H.B.); Robin Hood's Bay

**RIBAUTIANA** Zachvatkin (J.M.B.).

*ulmi* (L.)—Abundant.

*debilis* (Doug.)—Sleights, Goathland (H.B.).

*tenerrima* (Herr.-Sch.)—Common.

**CICADELLA** Dumeril

*vittata* (L.)—Common.

*notata* (Curt.)—Helwath Beck (H.B.).

*urticae* (Fabr.)—Common.

var. *leucocnema* (Osh.)—Hayburn Wyke (G.B.W.).

*cyclops* (Mats.)—Goathland (H.B.).

*stachydearum* (Hardy, J.)—Common.



- aurata* (L.)—Common.  
*atropunctata* (Goeze)—Common.  
*signatipennis* (Boh.)—Common.  
*tenella* (Fall.)—Sleights (H.B.).

**EURHADINA** Haupt

- pulchella* (Germ.)—Common.  
*concinna* (Germ.)—Widely distributed.

**EMPOASCA** Walsh**S. KYBOS** Fieber

- smaragdula* (Fall.)—Common.

**S. CHLORITA** Fieber

- decipiens* (Paoli)—Common.

**ALEBRA** Fieber

- albostriella* (Fall.)—Danes Dyke, Fylinghall (J.M.B.); Raincliffe Wood (G.B.W.).  
*wahlbergi* (Boh.)—Brockets (J.M.B.).

**DIKRANEURA** Hardy, J.

- mollicula* (Boh.)—Ramsdale, Ravenscar (J.M.B.); Helwath Beck (H.B.).  
*variata* Hardy, J.—Ramsdale, beneath *Calluna*, Robin Hood's Bay (J.M.B.); Sleights, Helwath Beck (H.B.).

## CIXIIDAE

**CIXIUS** Latreille**S. TACHYCIXIUS** Wagner, W.

- pilosus* (Ol.)—Common.  
 var. *albicinctus* (Germ.)—Fylinghall (J.M.B.).  
 var. *infumatus* Fieb.—Fylinghall (J.M.B.).

**S. CIXIUS** s.s.

- nervosus* (L.)—Danes Dyke, Ramsdale, Brockets (J.M.B.).

**S. PARACIXIUS** Wagner, W.

- distinguendus* Kirschb.—Seamer Moor (G.B.W.); common on salallows, Fylinghall (J.M.B.); Goathland (H.B.).

**S. CERATOCIXIUS** Wagner, W.

- cunicularius* (L.)—Forge Valley, Seamer Moor (G.B.W.).

**S. SCIOCIXIUS** Wagner, W.

- similis* Kirschb.—Seamer Moor (G.B.W.).

## DELPHACIDAE

**STENOCRANUS** Fieber

- minutus* (Fabr.)—Ramsdale, 12/6/43 (J.M.B.).

**KELISIA** Fieber

- vittipennis* (Sahlb., J.)—Ramsdale (W.J.F.); among grass, Brockets (J.M.B.); Hole of Horcum (H.B.).

**CONOMELUS** Fieber

- anceps* (Germ.)—Common and widely distributed among rushes.

**CALLIGYPONA** Sahlberg, J.

- discolor* (Boh.)—Hayburn Wyke, Ellerburn (G.B.W.); Robin Hood's Bay, Fylinghall (J.M.B.).  
*pellucida* (Fabr.)—Pickering, Robin Hood's Bay (J.M.B.).

- dubia* (Kirschb.)—Brockets, Maw Wyke, Fylinghall (J.M.B.).  
*forcipata* (Boh.)—Rather plentiful, Howdale, Robin Hood's Bay, Fylinghall (J.M.B.).  
*leptosoma* (Flor)—Fylinghall (J.M.B.).  
*denticauda* (Boh.)—Robin Hood's Bay, not common; Ramsdale (J.M.B.).  
*fairmairei* (Perr.)—Goathland, Ramsdale (J.M.B.).

**DICRANOTROPIS** Fieber

- hamata* (Boh.)—Cayton Bay (G.B.W.); Ramsdale (J.M.B.).

**CRIMORPHUS** Curtis

- albomarginatus* Curt.—Common and widely distributed.  
*moestus* (Boh.)—A few specimens in rough grass near edge of moors near Ramsdale (J.M.B.).

**STIROMA** Fieber

- pteridis* (Boh.)—Robin Hood's Bay, Brockets (J.M.B.).  
*affinis* (Fieb.)—Ellerburn, Forge Valley (G.B.W.); Newton Beck, Robin Hood's Bay (J.M.B.).

**Series STERNORHYNCHA****CHERMIDAE****LIVIA** Latreille

- juncorum* (Latr.)—Widely distributed.

**STROPHINGIA** Enderlein

- ericae* (Curt.)—Scalby High Moor (G.B.W.); probably widely distributed and common.

**APHALARA** Foerster

- calthae* (L.)—On larch, Ramsdale (J.M.B.).  
*exilis* (Web. & Mohr)—Scarborough (T.W.).

**PSYLLOPSIS** Loew, F.

- fraxinicola* (Foerst.)—Raincliffe Wood, Hayburn Wyke (G.B.W.); Littlebeck (H.B.).  
*fraxini* (L.)—Littlebeck (H.B.); Fylinghall (J.M.B.); Scarborough, common (G.B.W.).

**CHERMES** Linnaeus

- crataegi* (Schr.)—Egton Bridge (Y.N.U. Mtg.); Littlebeck, Helwath Beck (H.B.).  
*costalis* (Flor)—Fylinghall (J.M.B.).  
*peregrinus* (Foerst.)—Common and generally distributed.  
*mali* Schmidb.—Widely distributed.  
*alni* L.—Common and generally distributed.  
*foersteri* (Flor)—Hayburn Wyke (G.B.W.); Littlebeck, Goathland, Helwath Beck (H.B.).  
*betulae* L.—Sleights (H.B.).  
*buxi* L.—Common on box.  
*hippophaes* (Foerst.)—Common on sea-buckthorn at Scarborough and Cornelian Bay (G.B.W.).  
*melanoneura* (Foerst.)—Pickering, Robin Hood's Bay (J.M.B.); Sleights, Goathland (H.B.); Raincliffe Wood (G.B.W.).  
*nigrita* Zett.—Goathland, Sleights (H.B.).  
*ambiguus* (Foerst.)—Hayburn Wyke (G.B.W.).  
*spartii* (Guer.)—Common on broom, Staintondale (G.B.W.); Ravenscar (J.M.B.).

**ARYTAINA** Foerster

**genistae** (Latr.)—Common on broom, Grosmont (J.M.B.) ; Beckhole (H.B.).

**TRICHOCHERMES** Kirkaldy

**walkerii** Foerst.—Gall on **Rhamnus catharticus**, Scalla Moor, Pickering (H.J.B.) ; Rillington, plentiful at one spot (W.F.).

**TRIOZA** Foerster

**remota** Foerst.—Pickering, Goathland, Ramsdale (J.M.B.).

**urticae** (L.)—Common and widely distributed.

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## APHIDIDAE — GREEN-FLIES

The author's thanks are due to Dr. F. Laing and the late Prof. F. V. Theobald for their assistance in naming many of the following species, and to Dr. J. H. Fidler for checking and adding to the list and for much valuable criticism.

The following initials are used :—

H.B.	H. Britten fil.	F.V.T.	F. V. Theobald
W.F.	W. Falconer	G.B.W.	G. B. Walsh
J.H.F.	J. H. Fidler		

## MACROSIPHUM Passerini

## S. MACROSIPHUM s.s.

*gei* (Koch, C. L.)—On *Digitalis purpurea*, Falling Foss, 14/7/28; on roses and cultivated lettuce, nymphs, 20/7/28; apparently common (G.B.W.).

*euphorbiae* (Thom., C. A.)—Scarborough, indoors on tulips, 4/31 (G.B.W.).

*funestum* (Macch.)—On *Rubus* sp., Pickering, 14/5/49 (J.H.F.).

*rosae* (L.)—Common on roses.

## S. SITOBIIUM Mordvilko

*fragariae* (Walk.)—On bramble, Falling Foss, 14/7/28; apterae on young shoots, 23/8/28 (G.B.W.).

*avenae* (Fabr.)—Apterous females on oats, Sawdon, 26/7/28; on grasses, Fyling Hall, 29/8/29 (G.B.W.).

## MACROSIPHONIELLA Del Guercio

*sanborni* (Gill.)—Fairly common on chrysanthemums under glass.

*millefolii* (De G.)—Common on *Achillea*. Apterous and alate females, larvae and nymphs, Scarborough, 23/7/28; Sawdon, 26/7/28; Langdale End, larvae, 23/8/28 (G.B.W.); Filey (F.V.T., Brit. Aph., I. p. 161).

*tanacetaria* (Kalt.)—Larvae and alatae on *Tanacetum*, mouth of Scalby Beck, 24/6/28 (G.B.W.).

## METOPOLOPHIUM Mordvilko

*dirhodum* (Walk.)—On cultivated roses, Scarborough, apterae, 22/7/28; Fyling Hall, 29/6/29 (G.B.W.); Filey (F.V.T., Brit. Aph., I. p. 161); on potatoes, Cawthorn, 30/7/47 (J.H.F.).

## ACYRTHOSIPHON Mordvilko

*onobrychidis* Fonsc.—On white clover, larvae, nymphs and alatae, Staintondale and Scarborough, 21/7/28; on broom, Staintondale, apterae, 21/7/28 (G.B.W.).

## S. MICROLOPHIUM Mordvilko

*carosum* (Buckt.)—Very common on nettles everywhere.

*pelargonii* (Kalt.)—On *Pelargonium* indoors, Scarborough, apterae and young larvae, 21/8/28 (G.B.W.).

**DACTYNOTUS** Rafinesque**S. DACTYNOTUS** s.s.

*tussilaginis* (Walk.)—Common on *Tussilago*.

**S. UROMELAN** Mordvilko

*campanulae* (Kalt.)—On *Campanula rotundifolia*, Langdale End, apterae and larvae, 23/8/28 (G.B.W.).

*solidaginis* (Fabr.)—On *Solidago*, Raincliffe Wood, apterae and larvae, 6/9/28 (G.B.W.).

*jaceae* (L.)—On *Centaurea nigra*, apterae, alatae, larvae and nymphs, 23/7/28, Scarborough; Fyling Hall, 29/6/29 (G.B.W.).

**MEGOURA** Buckton

*papilionacearum* Lind.—Alatae and larvae on pods of *Vicia cracca*, Sawdon Dale, 26/7/28; on *Vicia sepium*, abundant, 29/6/29, Fyling Hall (G.B.W.).

**HYPEROMYZUS** Boerner, C.

*lactucae* (L.)—Common on lettuce and *Sonchus*, Scarborough, alatae and larvae, 22/7/28 (G.B.W.).

**AMPHOROPHORA** Buckton**S. AMPHOROPHORA** s.s.

*digitalisii* Theob.—Apterae found on *Digitalis purpurea* at Falling Foss, 17/7/28 (G.B.W.), were described as new to science (F.V.T., Ent. Mo. Mag., LXIV., 226 - 1928); Theobald says "distinct from anything I know", but Kloet and Hincks refer the species doubtfully to *A. picridis* Boern., C.

*ampullata* Buckt.—On ferns, Raincliffe Wood, apterae, 3/9/28; apterae, Forge Valley, 8/9/28; these laid a number of (white) eggs in the tin in which I brought them home (G.B.W.).

**S. EUNECTAROSIPHON** Del Guercio

*rubi* (Kalt.)—On *Rubus*, Fyling Hall, 29/6/29 (G.B.W.).

**MYZODES** Mordvilko

*ligustri* (Kalt.)—Filey, on privet, 14/8/92 (F.V.T., Brit. Aph., 1. 217).

**CRYPTOMYZUS** Oestlund

*ribis* (L.)—Abundant all over the district, at times doing a good deal of damage.

**CAPITOPHORUS** van der Goot

*similis* v. d. Goot—Apterae and larvae abundant under leaves of *Tussilago*, 11/9/28, Scarborough Mere (G.B.W.).

**CORYLOBIUM** Mordvilko

*avellanae* (Schr.)—Common on hazel all over the district.

**MYZAPHIS** van der Goot

*rosarum* (Kalt.)—On cultivated roses, Scarborough (G.B.W.).

**ELATOBium** Mordvilko

*abietina* (Walk.)—A serious pest to both forest and ornamental spruces and firs to which at times it does much damage.

**OVATUS** van der Goot

**menthae** (Buckt.)—Alatae on garden mint, 1/7/28, Scarborough (G.B.W.).

**PHORODON** Passerini

**pruni** (Scop.)—On **Prunus spinosa**, Beckhole, 18/7/36; Littlebeck, 13/9/36 (H.B.); common in the Scarborough district (G.B.W.).

**MYZUS** Passerini

**ornatus** Laing—On crocus in the house, 17/2/33 (G.B.W. fide F. Laing).

**cerasi** (Fabr.)—Beckhole, 18/7/36 on **Prunus spinosa**; Littlebeck, 13/9/36 (H.B.); uncommon on **Asperula odorata**, Fyling Hall, 29/6/29 (G.B.W.).

**persicae** (Sulz.)—On **Petasites**, Forge Valley, apterae and larvae, 6/8/28; on **Petunia**, Scarborough, 1/9/28 (G.B.W.).

**lythri** (Schr.)—In the flower heads of **Lythrum salicaria**, apterae only, Forge Valley, 12/9/28 (G.B.W.).

**AULACORTHUM** Mordvilko

**solani** (Kalt.)—Littlebeck, 13/9/36 (H.B.); Raincliffe Wood, fairly common (G.B.W.).

**LIPORRHINUS** Boerner, C.

**chelidonii** (Kalt.)—Common on **Calceolaria** in the garden, Scarborough, 1/9/28 (G.B.W.).

**IDIOPTERUS** Davis

**nephrolepidis** Dav.—Abundant on cultivated **Pteris** indoors, apterae and larvae, 20/8/28; common on greenhouse ferns, Hackness, 1928 (G.B.W.).

**CAVARIELLA** Del Guercio

**pastinacae** (L.)—Very common on fruits of **Heracleum** and on shoots of **Salix caprea** and **S. pentandra**, Scarborough district (G.B.W.).

**HYALOPTERUS** Koch, C. L.

**arundinis** (Fabr.)—Abundant on **Prunus spinosa**, often causing serious injury to foliage.

**BREVICORYNE** van der Goot

**brassicae** (L.)—Common on cultivated cabbages.

**HYADAPHIS** Kirkaldy

**sii** (Koch, C. L.)—On honeysuckle, larvae, nymphs and alatae, 11/9/28, Scarborough Mere; on leaves, 29/6/29, Fyling Hall (G.B.W.).

**APHIS** Linnaeus

**sambuci** L.—Alatae and young larvae on elder, Scarborough, 19/8/28 (G.B.W.).

**rumicis** (L.)—Very common.

**fabae** (Scop.)—Littlebeck, 13/9/36 (H.B.); at times common in winter, eggs on twigs of **Euonymus europaeus**, Forge Valley (G.B.W.).

**hederae** (Kalt.)—On ivy, Fyling Hall, 29/6/29 (G.B.W.).



**epilobii** (Kalt.)—Littlebeck, 13/9/36 (H.B.) ; Raincliffe Wood, apterae, 8/9/28 (G.B.W.).

**viburni** (Scop.)—Abundant at times on **Viburnum**, causing extensive damage; Scarborough district, well distributed (G.B.W.) ; Littlebeck, 13/9/36 (H.B.).

**rhamni** (Fonsc.)—On potatoes (G.B.W.).

**pomi** (De G.)—On hawthorn, Scarborough (G.B.W.).

**githagine!la** (Theob.)—Several apterae apparently referable to this species were taken on corn-cockle (**Lychnis githago**), 26/7/26, det. F.V.T. (G.B.W.).

**grossulariae** (Kalt.)—Common on gooseberries in the Scarborough district (G.B.W.).

#### **SAPPAPHIS** Matsumura

**pyri** (Fonsc.)—Beckhole, 18/7/36, Littlebeck, 13/9/36 (H.B.).

#### **YEZABURA** Matsumura

**sorbi** (Kalt.)—Littlebeck, 13/9/36 (H.B.) ; on mountain ash, Staintondale (W.F., Nat., 1919, p. 393).

**tulipae** (Fonsc.)—On tulip in the house, Scarborough, 3/28 ; on carrots in the garden, 1928, Scarborough (G.B.W.).

**crataegi** (Kalt.)—Fairly common on hawthorn, producing reddish blisters on the leaves (G.B.W.).

**malifoliae** (Fitch)—Causing leaf curl on crab-apple, Sawdon Dale, larvae, nymphs and alatae, 26/7/28 (G.B.W.).

#### **BRACHYCAUDUS** van der Goot

**cardui** (L.)—On **Senecio jacobaea** and **Carduus** sp., alatae and larvae, 21/7/28, Sawdon Dale ; common on **Carduus**, 23/8/28, Langdale End (G.B.W.).

**helichrysi** (Kalt.)—General and abundant in the Scarborough area (W.F., Nat., 1919, p. 393 ; G.B.W.).

**lychnidis** (L.)—On **Lychnis dioica**, 8/24, Raincliffe Wood ; on **L. alba**, 4/29, Hunmanby (G.B.W.).

#### **BRACHYCOLUS** Buckton

**stellariae** (Hardy)—On **Stellariae graminea**, 18/7/36 (H.B.) ; on **Holcus mollis** and **Cirsium vulgatum**, between Ravenscar and Robin Hood's Bay ; on **Stellaria holostea**, Lady Edith's Drive (W.F., Nat., 1922, p. 23).

#### **HOLCAPHIS** Lambers

**holci** (Hardy)—It is probable that the specimens from **Holcus** recorded above really refer to this species.

#### **MYZOCALLIS** Passerini

#### **S. MYZOCALLIS** s.s.

**coryli** (Goeze)—An alate female, 23/8/28, Langdale End ; on wych elm, **Ulmus glabra**, Falling Foss, 14/7/28, det. F.V.T. (G.B.W.).

**alni** (De G.)—Apterae on alder, 20/7/28, Hayburn Wyke (G.B.W.).

**castanicola** Baker—Alatae on sweet chestnut, **Castanea sativa**, Mill, 26/7/28 ; Sawdon Dale (G.B.W.).

**annulatus** (Hart.)—On oak, 14/7/28, Falling Foss (G.B.W.).

**querceus** Kalt.—A single alate female on oak, 23/8/28, Langdale End (G.B.W.).



**S. THERIOAPHIS** Walker

*tiliae* (L.)—Common on lime, *Tilia vulgaris* in Scarborough (G.B.W.).

*betulicola* (Kalt.)—On birch, 24/5/28, Raincliffe Wood (G.B.W.).

**EUCERAPHIS** Walker

*betulae* (L.)—Common on birch (G.B.W.).

**DREPANOSIPHUM** Koch, C. L.

*platanoides* (Schr.)—Common on sycamore all over the district.

**PHYLLAPHIS** Koch, C. L.

*fagi* (L.)—Common on beech, especially in hedges when it often causes leaf-curl.

**ATHEROIDES** Haliday

*serrulatus* Hal.—On grasses near Scarborough Mere, 11/9/28 (G.B.W.).

**PERIPHYLLUS** v. d. Hoeven

*testudinatus* (Thornt.)—Sycamore, Pickering, 18/5/46 (J.H.F.).

**VACUNA** von Heyden, C. H. G.

*dryophila* (Schr.)—Filey (F.V.T., Brit. Aph., III, p. 73).

**CINARA** Curtis

*pini* (L.)—On Scots pine, *Pinus sylvestris* Staintondale, 20/6/29 (G.B.W.).

**NEOCHMOSIS** Laing

*pinihabitans* (Mordv.)—Scots pine, Silpho Moor, 6/8/28 (G.B.W.).

*vanduzeei* (Swain)—On spruce, Forge Valley, 28/7/29 (G.B.W.).

**THECABIUS** Koch, C. L.

*affinis* (Kalt.)—Littlebeck, 13/9/36 (H.B.); on poplars south of Holbeck Gardens (W.F.); Scarborough (G.B.W.).

**BYRSOCRYPTA** Haliday

*bursaria* (L.)—Littlebeck, 13/9/36 (H.B.); somewhat occasional at Scarborough; the form *lactucaria* occurs in numbers at times on the roots of lettuce (G.B.W.).

*spirothecae* (Pass.)—On black poplar on the cliffs south of Holbeck Gardens, Scarborough (W.F., Nat., 1919, p. 393).

*filaginis* (Fonsc.)—Littlebeck, 13/9/36 (H.B.).

**ERIOSOMA** Leach

*lanigerum* (Hausm.)—Fairly common on apple trees in Scarborough and elsewhere (G.B.W.).

*ulmosedens* March.—Causing galls on elms in the Valley, Scarborough, 21/7/28; Sawdon Dale, 26/7/28 (G.B.W.).

**TETRANEURA** Hartig

*ulmifoliae* Bak.—Littlebeck, 13/9/36 (H.B.).

**GOBAISHIA** Matsumura

*pallida* Hal.—Littlebeck, 13/9/36 (H.B.).

## PHYLLOXERIDAE

**ADELGES** Vallot

*abietis* (L.)—Abundant all over the district, frequently causing great damage to spruce.

## ALEYRODIDAE - WHITE-FLIES

**ALEYRODES** Latreille

**proletella** (L.)—Occasionally damaging cabbages, Scarborough.

**loniceræ** Walk.—Larvae on **Lonicera**, Raincliffe Wood, Hayburn Wyke and Staintondale; flies in great abundance, Forge Valley, 6/11/1920.

**PEALIUS** Quaintance & Baker

**quercus** (Sign.)—Fairly frequent on **Corylus**, Raincliffe Wood, Hackness, Staintondale and Langdale End.

**TETRALICIA** Harrison, J. W. H.

**ericæ** Harr., J.W.H.—Once, in abundance on **Erica tetralix**, near the Falcon Inn, 8/1920; Broxa, 8/1947.

**TRIALEURODES** Cockerell

**vaporariorum** (Westw.)—A common pest in greenhouses.

## COCCIDAE — SCALE INSECTS

**Aspidiotus hederæ** (Vall.)—Commonly on a palm indoors at Scarborough.

**Chrysomphalus aurantii** (Mask.)—Occasional on imported lemons.

**Parlatoria pergandii** Comst.—At one time very common on imported oranges; only occasional nowadays.

**Chionaspis salicis** (L.)—Very common and widely distributed.

**Lepidosaphes ulmi** (L.)—MUSSEL SCALE. Not a very common species.

**Eriopeltis festucae** (Fonsc.)—Occasional on grasses.

**Luzulaspis luzulae** (Duf., L.)—Fairly common on **Luzula** in Raincliffe Wood.

**Eulecanium bituberculatum** (Targ.-Tozz.)—On hawthorn, Scarborough.

**E. corni** (Bouché)—Common.

**E. coryli** (L.)—Common.

**Physokermes abietis** (Geoffr.)—Not uncommon on spruce.

**Pseudococcus adonidum** (L.)—MEALY-BUG. Occasional in greenhouses.

**Fonscolombia fraxini** (Kalt.)—On old ashes, Stepney, Scarborough.

**Cryptococcus fagi** (Baer.)—FELTED BEECH COCCUS. Very common on beeches all over the district.

**Orthezia cataphracta** (Shaw)—Common on the moors among damp sphagnum.

**Polytrichum.**

**Newsteadia floccosa** (De G.)—Fairly common on the moors among

## Order MEGALOPTERA — ALDER FLIES

## SIALIDAE

**SIALIS** Latreille

**lutaria** (L.)—Common near most of the streams in the dales.

## Order NEUROPTERA — LACEWINGS

The following initials are used :—

H.B.—H. Britten fil.

J.M.B.—J. M. Brown

W.J.F.—W. J. Fordham

G.T.P.—G. T. Porritt

W.D.H.—W. D. Hincks

G.B.W.—G. B. Walsh

## CONIOPTERYGIDAE

**CONWENTZIA** Enderlein

**psociformis** (Curt.)—On holly, Raincliffe Wood, 3/8/25 (G.B.W.) ; Robin Hood's Bay, Ramsdale (J.M.B.).

**CONIOPTERYX** Curtis

**tineiformis** Curt.—Plentiful on hawthorn, Robin Hood's Bay district (J.M.B.).

**pygmaea** End.—Raincliffe Wood, Flixton sand pits, June, 1943 (W.D.H.).

**SEMIDALIS** Enderlein

**aleyrodiiformis** (Steph.)—Plentiful on hawthorn, Hawsker, Robin Hood's Bay (J.M.B.) ; Raincliffe Wood (G.B.W.).

## OSMYLIDAE

**OSMYLUS** Latreille

**fulvicephalus** (Scop.)—Occurs every year in small numbers in Forge Valley (G.B.W.).

## HEMEROBIIDAE

**EUMICROMUS** Nakahara

**paganus** (L.)—Beaten from a field hedge, Robin Hood's Bay, 30/6/44 (J.M.B.) ; Ramsdale (J.M.B.) ; Fylingdale (W.J.F.).

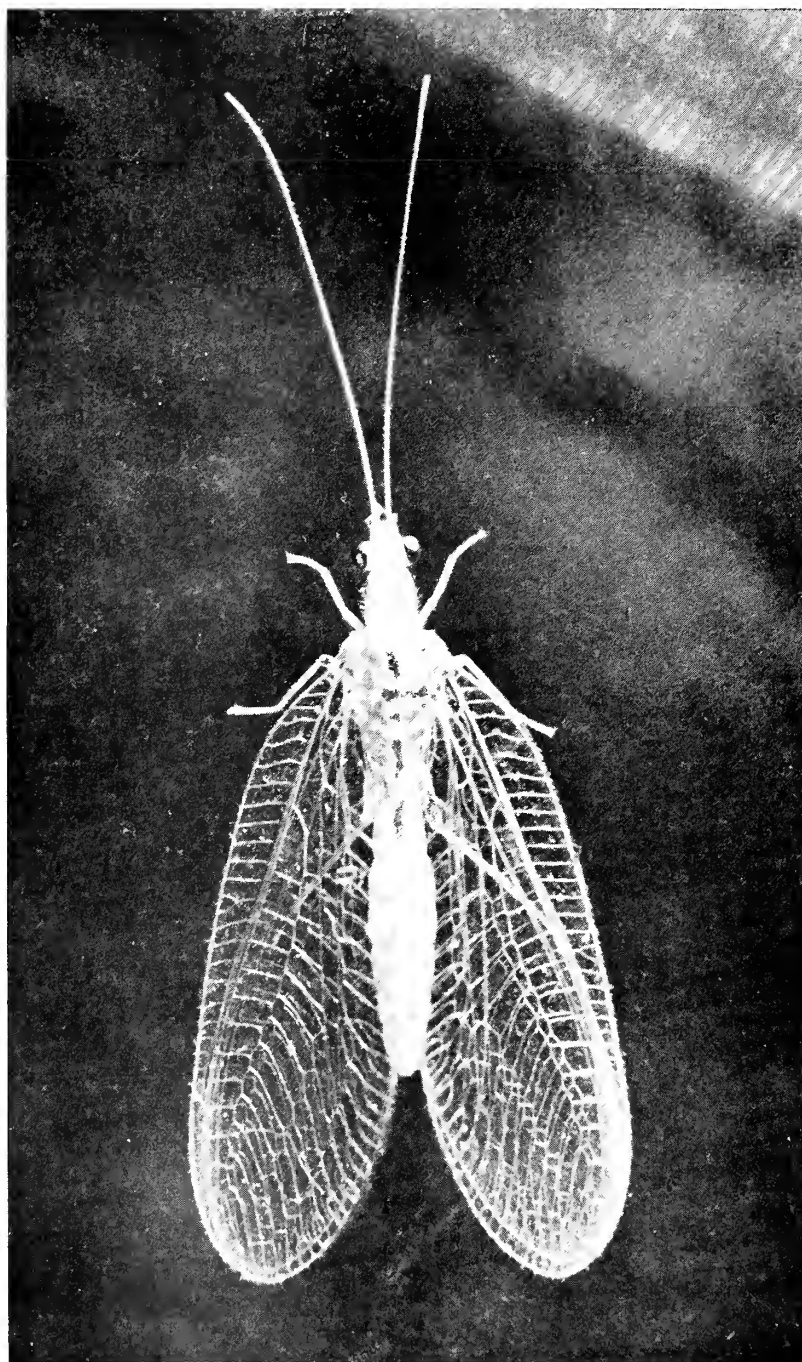
**HEMEROBIUS** Linnaeus

**humulinus** L.—Common.

**simulans** Walk.—Brockets, Fylingdale, -/6/39 (J.M.B.) ; Goathland (H.B.).

**stigma** Steph.—Common.

**nitidulus** Fabr.—Ramsdale, 1/7/44 (J.M.B.).



LACEWING (*Chrysopa flava* (Scop.))

Photograph : Vincent J. Watson, F.R.P.S.



*micans* Oliv.—Frequent, June to September.

*lutescens* Fabr.—Common.

*marginatus* Steph.—Beaten from alders, Howdale, Fylinghall (J.M.B.) ; Goathland (H.B.) ; Raincliffe Wood (G.B.W.).

#### KIMMINSIA Killington

*betulina* (Stroem, H.)—Widely distributed.

*subnebulosa* Steph.—Fairly common.

#### WESMAELIUS Krueger

*concinus* (Steph.)—Forge Valley (G.B.W.) ; Robin Hood's Bay (J.M.B.).

*quadrifasciatus* (Reut., O. M.)—Robin Hood's Bay (J.M.B.).

#### SYMPHEROBIUS Banks

*elegans* (Steph.)—Howdale on alder, 7/8/42 (J.M.B.).

### CHRYSOPIDAE

#### CHRYSOPA Leach

*flava* (Scop.)—Common.

*vittata* Wesm.—Common.

*ciliata* Wesm.—Common.

*albolineata* Kill.—Robin Hood's Bay (J.M.B.) ; Scarborough Mere (W.D.H.) ; Raincliffe Wood (G.B.W.).

*carnea* Steph.—Common.

*ventralis* Curt.—Robin Hood's Bay, Ramsdale (J.M.B.).

s. *prasina* Burm.—Robin Hood's Bay (J.M.B.).

#### NATHANICA Navas

*capitata* (Fabr.)—Fylinghall (W.J.F.) ; Ravenscar, Ramsdale (J.M.B.).

## Order MECOPTERA — SCORPION FLIES

### PANORPIDAE

#### PANORPA Linnaeus

*communis* L.—Common.

*germanica* L.—Not so common as the last.

*cognata* Rambur—Rare, Forge Valley (G.B.W.).

### BOREIDAE

#### BOREUS Latreille

*hyemalis* (L.)—Probably commoner than is recorded. Hay Brow, fairly common; a specimen walking on the snow on Oliver's Mount (G.B.W.).



## Order TRICHOPTERA — CADDISFLIES

H. Whitehead

The Caddisflies have received a good deal of attention from Yorkshire entomologists and with the exception of one family (Hydroptilidae), records have been kept for over forty years. Members of the Hydroptilidae are very small with a wing expanse of a little over a quarter of an inch. No doubt several species will be added to the present meagre list.

In this area the larval stages, "Caddis Worms," are found mostly in running water.

The names of recorders are :—

H.B.—H. Britten, fil.

R.M.—R. M. R. McLachlan

J.M.B.—J. M. Brown

G.T.P.—G. T. Porritt

P.H.G.—P. H. Grimshaw

G.B.W.—G. B. Walsh

W.D.H.—W. D. Hincks

H.W.—H. Whitehead

## PHRYGANEIDAE

## PHRYGANEA Linnaeus

*obsoleta* Hag.—Fylingdales Moor, 13/7/35, (H.B.) ; Robin Hood's Bay, 12/7/46, (J.M.B.).

## LIMNephilidae

## COLPOTAULIUS Kolenati

*incisus* (Curt.)—Raincliffe Wood and Forge Valley, (W.D.H.).

## GRAMMOTAULIUS Kolenati

*strigosus* (Curt.)—Pickering, 6/6/42, (H.W.).

## GLYPHOTAELIUS Stephens

*pellucidus* (Retz.)—Robin Hood's Bay, 1/6/37, Oxbank Wood, 1/7/37, (J.M.B.).

## LIMNOPHILUS Leach

*rhombicus* (L.)—Fen Bog, Goathland, 11/7/37, (H.B.).

*stigma* (Curt.)—Seamer Moor, 18/6/41, (H.W.).

*lunatus* Curt.—Robin Hood's Bay, 1943, (J.M.B.).

*centralis* Curt.—Ravenscar, 26/6/37, Brockets, 29/6/37, Maw Wyke, 25/6/37, Fylinghall, 26/6/36, (J.M.B.) ; Fen Bog, Goathland, 11/7/37, Hole of Horcum, 27/6/37, Wragby Wood, 6/6/36, Helwath Beck, 26/9/37, (H.B.) ; Pickering, 6/6/42, Forge Valley, 12/6/43, (H.W.).

*vittatus* (Fabr.)—Robin Hood's Bay, 1/4/45, (J.M.B.).

*affinis* Curt.—Robin Hood's Bay, 26/8/45, Maw Wyke, 16/9/36, (J.M.B.).

*auricula* Curt.—Ravenscar, 26/6/37, Ramsdale, 25/6/37, Oxbank Wood, 2/7/37, Brockets, 19/6/37, (J.M.B.) ; Helwath Beck, 26/9/37, (H.B.).

*griseus* (L.)—Ramsdale Beck, 4/6/42, (J.M.B.).



*luridus* Curt.—Hole of Horcum, 27/6/37, (H.B.); Ramsdale, 8/7/37, (J.M.B.).

*sparsus* Curt.—Fylinghall, 26/6/36, Linger's Fields, 23/6/37, Ramsdale, 14/6/37, Oxbank Wood, 1/7/37, Howdale, 12/6/37, (J.M.B.); Beckhole, 1/6/36, Goathland, 30/9/37, (H.B.).

#### ANABOLIA Stephens

*nervosa* (Curt.)—Pickering and Scarborough, (G.T.P.); Beckhole, 7/9/36, Robin Hood's Bay, 25/9/45, Ramsdale, 24/9/36, (J.M.B.).

#### PHACOPTERYX Kolenati

*brevipennis* (Curt.)—Scarborough, (R.M.).

#### STENOPHYLAX Kolenati

*rotundipennis* (Brauer)—Scarborough, (R.M.).

*stellatus* (Curt.)—Pickering, (G.T.P.).

*latipennis* (Curt.)—Linger's Fields, 4/9/42, Brockets, 28/9/37, (J.M.B.).

*vibex* (Curt.)—Scarborough, (G.T.P.); Beckhole, 1/6/36, (H.B.).

*permistus* McL.—Hayburn Wyke, (G.T.P.); Helwath Beck, 26/9/37, Goathland, 30/9/37, (H.B.); Robin Hood's Bay, 1943, (J.M.B.); Troutsdale, 9/5/47, (H.W.).

#### MICROPTERNA Stein

*sequax* McL.—Ravenscar, 9/10/37, (J.M.B.).

#### HALESUS Stephens

*radiatus* (Curt.)—Pickering, 18/9/41, (H.W.); Robin Hood's Bay, 1943, (J.M.B.).

*digitatus* (Schränk)—Robin Hood's Bay, 1943, (J.M.B.).

*guttatipennis* McL.—Forge Valley, (G.B.W.); Pickering, 28/10/96 (G.T.P.).

#### DRUSUS Stephens

*annulatus* (Steph.)—Hayburn Wyke, (G.T.P.); Robin Hood's Bay, 7/9/36, Ramsdale, 29/9/37, Fylinghall, 8/9/36, Oxbank Wood, 14/9/36, Maw Wyke, 16/9/36, Brockets, (J.M.B.); Hole of Horcum, 31/8/37, (H.B.).

#### ECCLISOPTERYX Kolenati

*guttulata* (Pict., F. J.)—Wykeham, Scarborough, (G.T.P.).

#### CHAETOPTERYX Stephens

*villosa* (Fabr.)—Pickering, 28/10/36, (G.T.P.); Goathland, 24/9/48, (H.W.).

### SERICOSTOMATIDAE

#### SERICOSTOMA Berthold

*personatum* (Spence)—Fylinghall, 26/6/36, Robin Hood's Bay, 23/6/36, (J.M.B.); Fen Bog, Goathland, 11/7/37, (H.B.); Forge Valley, (G.B.W.).

#### SILO Curtis

*pallipes* (Fabr.)—Ramsdale, 14/6/37, Brockets, 15/8/37, Maw Wyke, 25/6/37, Oxbank Wood, 1/7/37, Robin Hood's Bay, 14/6/37, (J.M.B.); Hole of Horcum, 26/7/37, (H.B.); Forge Valley, (G.B.W.).

**CRUNOECIA** McLachlan

*irrorata* (Curt.)—Robin Hood's Bay, 10/9/36, Fylinghall, 10/9/36, Ramsdale, 14/6/37, Throxenby Mere, 12/6/43, (J.M.B.) ; Hayburn Wyke, (G.B.W.).

**LEPIDOSTOMA** Rambur

*hirtum* (Fabr.)—Pickering, 2/8/41, (H.W.).

**LASIOCEPHALA** Costa, A.

*basalis* (Kol.)—Throxenby Mere and Forge Valley, 12/6/43, (J.M.B.).

**BERAEIDAE****BERAEA** Stephens

*pullata* (Curt.)—Maw Wyke, 30/6/42, (J.M.B.) ; Forge Valley, 12/6/43, (H.W.).

*maurus* (Curt.)—Hayburn Wyke, (G.T.P.) ; Hole of Horcum, 31/8/37, (H.B.) ; Robin Hood's Bay, 8/7/37, Maw Wyke, 25/6/37, Ramsdale, 8/7/37, Fylinghall, 12/7/40, (J.M.B.) ; Goathland, 6/7/46, (H.W.).

**ODONTOCERIDAE****ODONTOCERUM** Leach

*albicorne* (Scop.)—Hole of Horcum, 26/7/37, (H.B.) ; Robin Hood's Bay, 30/6/45, Brockets, 21/7/42, (J.M.B.) ; Pickering, 2/8/41, Goathland, 6/7/46, (H.W.) ; Forge Valley, (G.B.W.).

**LEPTOCERIDAE****ATHRIPSOIDES** Billberg (= **LEPTOCERUS** Leach)

*aterrimus* (Steph.)—Throxenby Mere, 12/6/43, (J.M.B.).

*cinereus* (Curt.)—Scarborough, (G.T.P.).

*albifrons* (L.)—Scarborough, 1893, (G.T.P.).

*bilineatus* (L.)—Goathland, 6/7/46, (H.W.).

*commutatus* (McL.)—Scarborough, (R.M.).

**MYSTACIDES** Berthold

*nigra* (L.)—Scalby Beck, (G.T.P.) ; Fen Bog, Goathland, 11/7/37, (H.B.).

*azurea* (L.)—Pickering, 2/8/41, (H.W.).

**ADICELLA** McLachlan

*reducta* (McL.)—Robin Hood's Bay, 2/7/37, (J.M.B.).

**HYDROPSYCHIDAE****HYDROPSYCHE** Pictet, F. J.

*pellucidula* (Curt.)—Helwath Beck, 6/6/37, (H.B.).

*instabilis* (Curt.)—Hole of Horcum, 27/6/37, (H.B.) ; Brockets, 24/6/42, (J.M.B.).

**DIPLECTRONA** Westwood

*felix* McL.—Scarborough, (R.M.) ; Ramsdale Beck, 1933, (J.M.B.).

**POLYCENTROPIDAE****PLECTROCNEMIA** Stephens

*conspersa* (Curt.)—Robin Hood's Bay, 4/7/39, in house, (J.M.B.).

*geniculata* McL.—Ramsdale, 14/6/37, (J.M.B.).

**POLYCENTROPUS** Curtis

*flavomaculatus* (Pict., F. J.)—Scarborough, (G.T.P.); Goathland, 6/7/46, (H.W.).

**CYRNU** Stephens

*trimaculatus* (Curt.)—Goathland, 6/7/46, (H.W.).

**PSYCHOMYIDAE****TINODES** Leach

*waeneri* (L.)—Scalby Beck, (G.T.P.); Goathland, 6/7/46, (H.W.).

*aureola* (Zett.)—Hayburn Wyke, (G.T.P.); Ravenscar, 5/7/37, (J.M.B.).

*dives* (Pict.)—Hole of Horcum, 26/7/37, (H.B.); Maw Wyke, 5/7/38, (J.M.B.).

**PHILOPOTAMIDAE****PHILOPOTAMUS** Leach

*montanus* (Don.)—Oxbank Wood, 12/6/40, (J.M.B.).

**WORMALDIA** McLachlan

*occipitalis* (Pict., F. J.)—Hayburn Wyke, (G.T.P.); Hole of Horcum, 31/8/37, Sleights, 29/9/37, (H.B.); Robin Hood's Bay, 16/9/36, Ravenscar, 9/10/37, (J.M.B.).

*subnigra* McL.—Scarborough, (G.T.P.).

**RHYACOPHILIDAE****RHYACOPHILA** Pictet, F. J.

*dorsalis* (Curt.)—Scalby Beck, (G.T.P.); Beckhole, 17/9/36, Brockets, 28/9/37, Ramsdale, 24/9/36, (J.M.B.); Pickering, 18/9/41, (H.W.).

*obliterata* McL.—Scarborough, (G.T.P.); Goathland, 30/9/37, Sleights, (H.B.); Beckhole, 17/9/36, Robin Hood's Bay, 14/9/36, Brockets, 7/10/37, Maw Wyke, 16/9/36, Fylinghall, 8/9/36, Ramsdale, 10/9/36, Oxbank Wood, 14/9/36, (J.M.B.); Hayburn Wyke, (G.B.W.).

*munda* McL.—Helwath Beck, 26/9/37, (H.B.).

**GLOSSOSOMA** Curtis

*boltoni* Curt.—Ravenscar, 26/6/37, Robin Hood's Bay, 20/6/45, Brockets, 25/6/40, (J.M.B.).

**AGAPETUS** Curtis

*fuscipes* Curt.—Hole of Horcum, 27/6/37, (H.B.); Robin Hood's Bay, 25/6/37, Ravenscar, 26/6/37, Maw Wyke, 25/6/37, Oxbank Wood, 1/7/37, Ramsdale, 8/7/37, (J.M.B.).

*comatus* (Pict., F. J.)—Pickering, 2/8/41, (H.W.).

**HYDROPTILIDAE****ALLOTRICHIA** McLachlan

*pallicornis* (Eat.)—Pickering, 2/8/41, (H.W.).

**HYDROPTILA** Dalman

*mclachlani* Klap.—Robin Hood's Bay, 5/10/37, (J.M.B.).

# Order LEPIDOPTERA

## MOTHS and BUTTERFLIES

G. B. Walsh

A firm foundation for our knowledge of our local Lepidoptera was laid nearly a century ago by Thomas Wilkinson. He was one of our foremost British students of the Microlepidoptera, breeding and collecting for the first time a number of species which were described by H. T. Stainton. At the beginning of this century A. S. Tetley and T. W. Lownsbrough collected the larger species, Tetley specialising to some extent on the Noctuidids. Of recent years Mr. Arthur Smith of York has done much collecting in the district, both near Scarborough and at Pickering, and the late Mr. W. Craigs of Cat Cleugh, Northumberland, has collected near Staintondale; good work has also been done by young members of the Scarborough Field Naturalists' Society, notably by the late Mr. G. L. McDermid, and Messrs. M. Ellison and E. Owston, who are keen students of the larger species. All modern workers have, of course, been much indebted in many ways to the late Mr. H. W. Head, the veteran breeder of Lepidoptera, to whose kindly soul and generous nature we pay tribute here.

In using the following notes the student should recognise that Wilkinson records as from "Scarborough" many species which may have been taken some distance from the town; e.g. *Celaena haworthi* Curt. was probably taken near the Falcon Inn. Moreover, some of his "species" are now known to be two species; e.g. *Coleophora laripennella* Zett. and *C. annulatella* Tengstr.; *Tinaea cloacella* Haw. and *T. ruricolella* Staint. In the absence of the actual specimens each species has been left under the name in which it was originally recorded.

By far the greatest amount of work has been done on the open moors and in the woods and valleys near Scarborough and Pickering. Owing probably to their less picturesque character and to some degree of inaccessibility, very little collecting has been done in the Carrs of the Vale of Pickering or on the Wolds.

On the open moorland there has probably been little change for many centuries. Here over very large areas there are more or less uniform environmental factors such as soil, humidity, drainage, aspect, insolation, etc., thus we get a more or less uniform plant covering, with *Calluna* as a dominant, and *Erica*, *Vaccinium* and moorland grasses (*Nardus*, *Molinia*, *Deschampsia*) as sub-dominants, with *Pteridium* dominant on the slopes. Observation seems to show that this uniformity of covering is associated with a fairly uniform distribution of the insects feeding on these plants, with, of course, seasons of greater or less abundance of individual species. Examples of such insects are the Green Hairstreak Butterfly (*Callophrys rubi* (L.)), and among the moths the Emperor (*Saturnia pavonia* (L.)), Oak Eggar (*Macrothylacia*

**rubī** (L.)), Beautiful Yellow Underwing (**Anarta myrtilli** (L.)), Ling Pug (**Eupithecia goosensiata** Mab.), etc. The Scarce Silver Underwing (**Plusia interrogationis** (L.)), a species of northern distribution, is less common, but is still widely distributed as it nears the southern border of its range.

In the wooded areas it is probable that there has been little change in the general composition of the vegetation during the past centuries. Woods have been cut down and replanted and new plantings have taken place (Raincliffe Wood was replanted about 1860), especially the extensive plantings of conifers, many of them of foreign origin, now taking place under the Forestry Commission ; but on the whole there has been a more or less definite continuum of typical English woodland vegetation since the days of the Forest of Pickering.

These wooded or cultivated areas offer a much greater variety of micro-climates than do the wide expanses of the moors, and consequently insects tends to be more or less localised, and may also vary a good deal in abundance from year to year. Observations since the days of Wilkinson show that the insect population is by no means static in either number or constitution, but is always in a state of ebb and flow. The butterflies, on which, owing to their day-flying habits, observations are most easily made, exhibit this phenomenon in an interesting way. Just as in other parts of the country, there was, about fifty years ago, a marked diminution in the numbers of certain species until at last they completely disappeared ; some examples are the Comma (**Polygonia c-album** (L.)), the Wall (**Dira megera** (L.)), the Grayling (**Eumenis semela** (L.)). A possible suggestion is that sunless wet years, especially 1863, so reduced the numbers of these species that they fell below the minimum necessary to preserve the vitality of the race and so they gradually disappeared owing to this form of natural inbreeding. Now, however, these butterflies are gradually coming back again to the haunts where they occurred before, not only in our own district but all over the country. This rejuvenescence of vitality may possibly be due, in some cases at least, to a gradual amelioration of climatic conditions accompanied by the immigration into the south of England of new " blood " from the Continent, with their subsequent natural spread into the haunts where they occurred before. In the special case of the Wall Butterfly the species is subject, for some unexplained reason, to these oscillations of abundance and scarcity over a number of years.

Variations in the numbers of moths are not so easy to observe, but there is no doubt that they occur, although an apparent loss of a species may be due to some error in collecting. A number of species which were taken in Wilkinson's time, some of them recorded as " common ", have not been seen for many years ; e.g., Red-Necked Footman (**Atolmis rubricollis** (L.)), Coronet (**Craniophora ligustri** (Fabr.)), Small Dotted Buff (**Petitampha minima** (Haw.)), Slender Brindle (**Xylophasia scolopacina** (Esp.)), The Confused (**X. furva** (Hueb.)), Union Rustic (**Apamea pabulatricula** (Brahn)), common in Wilkinson's time but now

scarce, The Flame (*Axylia putris* (L.)), said to be "very common" in Stainton's Manual, but not recorded for a very long time.

There are many others which have not been taken for many years; most will doubtless be found again, but some, such as the Goat Moth (*Cossus cossus* L.), definitely have disappeared from our present fauna.

On the other hand a good many species have been recorded this century which were never taken by Wilkinson, and in fact, in at least one case, the Golden Plusia (*Polychrisia moneta* (Fabr.)) was not even a British species in his day. This was first recorded from the south of England in 1890 and was recorded from our area in 1919; since then it has become quite common in local gardens where the larva feeds on monkshood and larkspur. The case of the Large Elephant Hawk Moth (*Deilephila elpenor* (L.)) is very interesting; recorded as common by Wilkinson, it was rare in Tetley's time; since then, however, it has become one of the commonest of our Hawk Moths, the larva feeding in gardens on fuchsia and in the wild on Rosebay Willowherb and species of *Epilobium*. It is noteworthy that the increase in the numbers of the moth has synchronised with the wide extension of range of this food-plant. Some other moths which have been taken more or less commonly in the district since Wilkinson's time are Dark Swordgrass (*Agrotis ypsilon* (Rott.)), abundant at sugar, 1911 (A.S.T.), Orange Sallow (*Tiliacea citrigo* (L.)), Dusky-lemon Sallow (*Cirrhia gilvago* (Schiff.)), Powdered Quaker (*Taeniocana gracilis* Fabr.), Scallop Shell (*Calocalpe undulata* (L.)), Lilac Beauty (*Hygrochroa syringaria* (L.)), Spinach (*Lygris associata* (Borkh.)).

In very few cases can we give any reason for the gain or loss of a species in our local lists. In most cases their loss is definitely not due to over-collecting nor is it connected in any way with the damage they do to their food plant, for only in very few cases (and these chiefly the spring-feeding larvae of the Winter Moths and their allies) do the species cause any material damage to vegetation; in fact, in most cases the food plants can apparently support with ease far more than the number of larvae normally found upon them. We can only hypothesise that it is connected in some complex way with climate, acting either favourably or unfavourably over more or less extended periods on the insect itself, on other species with which it is in competition or upon their parasites or predators.

Several types of melanism or melanochroism occur in our area. Strictly speaking, the case of *Phycis fusca* Haw. is not an example of this phenomenon, but it is of great interest. It inhabits the swiddens—the patches on the moors where the heather has been burnt off—and harmonises well with the environment. Perhaps the larvae of the Magpie Moth (*Abraxas grossulariata* (L.)) give a better example. Among the caterpillars feeding on *Euonymus japonica* in the town, many are almost or quite black, and resemble well the somewhat sooty twigs on which they occur; but the moths bred from them are no blacker than the normal and exhibit the usual variations in colour incidental to the species.



Some of our moths exhibit the darkening in tint which we associate with moths living at high altitudes or in high latitudes. Examples of such forms are frequently found in the Dark Arches (*Xylophasia monoglypha* (Hufn.) var. *infuscata* White), Marbled Minor (*Procus strigilis* (Clerck)), Grey Arches (*Polia nebulosa* (Hufn.)), and many other species have forms more or less deeper tinted than south-country specimens. This may possibly be due to the direct effect of cold upon an early stage of the insect, and experiment has shown that melanochroic forms can actually be produced in this way. Another suggestion is that the deeper pigmentation is due to the more nourishing character of the vegetation in the North, this being due in its turn to lower temperatures which stunt growth and longer insolation in the summer which assists photosynthesis.

The black variety (var. *doubledayaria* Mill.) of the Peppered Moth (*Biston betularia* (L.)) is now commoner in the district than the type though both forms occur commonly and may be found in copula with one another or be bred from the same batch of eggs. This form was not recorded by either Wilkinson or Tetley, and presumably was unknown to them. Its spread may be due, as South suggests (British Moths, II, 301), to the liberal distribution of eggs of the variety, or, more probably, to the natural spread of this vigorous form, parallel with the spread of some of the butterflies (v.s.).

Finally, and perhaps the most interesting, are a few cases of the melanism which is usually associated with industrial areas. Some of the examples occurring with us are Pale Brindled Beauty (*Phigalia pedaria* (Fabr.)), Scalloped Hazel (*Gonodontis bidentata* (Clerck)), Small Early Grey (*Diurnea fagella* (Fabr.)), Marbled Minor (*Procus strigilis* (Clerck)), Grey Arches (*Polia nebulosa* (Hufn.)), and perhaps we may associate with them the variety *plumbea* of *Abraxas sylvata*, the Clouded Magpie, which used to be taken in numbers at Sledmere. Most of these forms are locally of late origin for they were not mentioned by Tetley (d. 1916), and yet they occur in Raincliffe Wood which is 2—3 miles from the centre of the town and which Tetley worked assiduously, and probably elsewhere.

The occurrence of these melanic forms is usually associated with soot, and may be due to selective destruction of paler forms by birds or possibly to the direct action on the insect in the larval stage of a food-plant contaminated with mineral salts. We may associate with this so-called "industrial melanism" of these species of moths the fact, mentioned by Dr. W. Watson in his Introduction to the Lichens, that certain species of local lichens show definitely the effects of soot. Probably a certain amount of this comes from the town, but much probably comes from other sources, perhaps from Tees-side and certainly from west and south Yorkshire. This is best seen in trees growing in the open and sufficiently far from the town as not to be masked by local soot. If the branches on the S.W. or W. side of such a tree be stroked with one hand and those on the opposite side be stroked with the other, the former becomes much blacker than the second; or if an exposed



larch be observed in the autumn when the needles are yellow, those on the S.W. and W. sides are obviously darker than those on the opposite side. This suggests that, though the air seems quite clean, there is actually a small amount of wind-blown soot from the industrial areas of the West Riding.

Nearer Scarborough the smoke of the town has a limited effect on the foliage. For most of the year land breezes carry the smoke out to sea, but there is a spell in April and early May when sea-breezes blow it inland, and this, of course, would affect the young foliage of the year. The amount of soot deposition cannot be very great for the tree-trunks are not much blackened and the dark moths stand out upon them more clearly than do the typical forms. For further information on the subject see "Moths", E. B. Ford, 1955, Chap. 13.

The list has been compiled from the record-books of the Scarborough Field Naturalists' Society and from G. T. Porritt's "List of Yorkshire Lepidoptera", 1904.

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H.W.D.—H. W. Dobson	J.H.R.—J. H. Rowntree
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T.W.L.—T. W. Lownsbrough	G.B.W.—G. B. Walsh
G.L.M.—G. L. McDermid	T.W.—T. Wilkinson

## MICROPTERIGIDAE

### ERIOCRANIA Zeller

*semipurpurella* (Steph.)—Common near Scarborough.

*rubroaurella* (Haw.)—Common.

*salopiella* (Staint.)—Scarborough on birch (T.W.).

*sparrmannella* (Bosc)—With the last (T.W., A.S.).

### MNEMONICA Meyrick

*unimaculella* (Zett.)—Scarborough (T.W., A.S.).

*subpurpurella* (Haw.)—Scarborough (T.W., A.S.).

### MICROPTERIX Huebner

*thunbergella* (Fabr.)—Very common, Scarborough (S.M.).

**aureatella** (Scop.)—Scarborough (T.W.) ; Raincliffe Wood (G.B.W.), about spike heads of *Carex sylvatica*.

**aruncella** (Scop.)—Common, Scarborough (S.M.) ; Flamborough Head (E.H.).

**calthella** (L.)—Scarborough (T.W., A.S.) ; abundant in Forge Valley about flowers of *Caltha palustris* (G.B.W.).

## HEPIALIDAE

## HEPIALUS Fabricius

**hectus** (L.)—GOLD SWIFT. Abundant in woods, even within Scarborough.

**lupulinus** (L.)—COMMON SWIFT. Common everywhere.

**fuscenebulosus** (De G.)—MAP-WINGED SWIFT. Very common on the moors and in woods and dales where bracken occurs. Many beautiful forms may be taken.

**sylvinus** (L.)—ORANGE SWIFT. Common almost everywhere.

**humuli** (L.)—GHOST SWIFT. Common.

## ARCTIIDAE

## EILEMA Huebner

**complana** (L.)—SCARCE FOOTMAN. Scarborough (T.W.) ; Pickering (A.S.).

**griseola** (Huebner.)—DINGY FOOTMAN. Common in Raincliffe Wood (T.W.).

## LITHOSIA Fabricius

**quadra** (L.)—FOUR-SPOTTED FOOTMAN. Visits flowers of hogweed on Oliver's Mount, Scarborough in July (T.W.).

## ATOLMIS Huebner

**rubricollis** (L.)—RED-NECKED FOOTMAN. Common (T.W.), but there have been no records for many years.

## COMACLA Walker

**senex** (Huebner.)—ROUND-WINGED MUSLIN. Scarborough (T.W.).

## MILTOCHRISTA Huebner

**miniata** (Forst.)—ROSY FOOTMAN. Scarborough (S.M.) ; this record needs confirmation.

## NUDARIA Haworth

**mundana** (L.)—MUSLIN FOOTMAN. Generally common near Scarborough ; common at light at Everley (A.S.T.) ; larvae feeding on moss in wall at Ayton Castle (A.S.), and Stepney Hill (G.B.W.).

## HYPOCRITA Huebner

**jacobaeae** (L.)—CINNABAR. Common in many places ; at times the larvae are so abundant as to destroy the whole of the food-plant and then they turn to groundsel.

## UTETHEISA Huebner

**pulchella** (L.)—CRIMSON SPECKLED. One on Raincliffe (Seamer) Moor by R. Beck, 2/9/1871 (J.H.R.) ; one at Scarborough, -/6/1876 (J.H.R., Ent., viii., 54).

## PHRAGMATOBIA Stephens

**fuliginosa** (L.)—RUBY TIGER. Common on heather moors all over the district.

**CYCNIA** Huebner*mendica* (Clerck).—MUSLIN. Scarborough (T.W.).**SPILOSOMA** Stephens*lutea* (Hufn.).—BUFF ERMINE. Common everywhere. The vars. *radiata*, *fasciata* and *intermedia* have been bred from larvae taken near Scarborough (A.S.).*lubricipeda* (L.) (*menthastri* Cat. Brit.).—WHITE ERMINE. Of general occurrence but not so common as *lutea*.**DIACRISIA** Huebner*sannio* (L.).—CLOUDED BUFF. Widely distributed on the moors, but local. Harwood Dale (A.S.T.); near Flask Inn, Robin Hood's Bay, Silpho Moor (M.E. and E.O.); Pickering (A.S.).**ARCTIA** Schrank*caja* (L.).—GARDEN TIGER. Common and generally distributed. A black variety was bred by A. I. Burnley, 1928 (G.B.W.).**PARASEMIA** Huebner*plantaginis* (L.).—WOOD TIGER. Common and generally distributed on the moors. The var. *hospita* sometimes occurs.

## NOLIDAE

**NOLA** Leach*strigula* (Schiff.).—SMALL BLACK ARCHES. Scarborough (T.W.); this is the only Yorkshire record, but having regard to its known distribution, it seems probable that there has been an error of identification.**ROESELIA** Huebner*confusalis* (Herr.-Sch.).—LEAST BLACK ARCHES. Scarborough (T.W.); used to occur in Raincliffe Wood (H.W.H.); Pickering, 2 specimens (A.S.).

## CYMBIDAE

**BENA** Billberg*prasinana* (L.).—GREEN SILVER-LINES. Used to be very common in the Scarborough area; now occurs occasionally at sugar in Raincliffe Wood; Mr. A. Smith has found the larvae common on oak at Pickering but has not taken the moth at sugar.**SARROTHRIPUS** Curtis*revayana* (Scop.).—LARGE MARBLED TORTRIX. Scarborough, scarce (T.W.); larvae common on oak at Pickering (A.S.).

## CARADRINIDAE

**APATELE** Huebner*leporina* (L.).—MILLER. Rare; odd specimens at sugar in Raincliffe Wood; one at rest at Staintondale (A.S.T.); larvae not uncommon on aspen on Seamer Moor (A.S.T.), on birch at Newton-by-Rawcliffe (A.S.).*alni* (L.).—ALDER. Not uncommon at Scarborough (T.W.); occasional specimens still occur.*tridens* (Schiff.).—DARK DAGGER. Scarborough (T.W.).

- psi* (L.)—GREY DAGGER. Common.
- megacephala* (Schiff.)—POPLAR GREY. Larvae very common, even in the town (M.E. and E.O.).
- rumicis* (L.)—KNOT GRASS. This is probably common but there are very few records of its occurrence.
- menyanthidis* (View.)—LIGHT KNOT GRASS. Fairly common on the higher moors.
- CRANIOPHORA** Snellen
- ligustri* (Schiff.)—CORONET. Scarborough, very common (T.W.).
- COLOCASIA** Ochsenheimer
- coryli* (L.)—NUT-TREE TUSSOCK. Filey (F.O.M.) ; Scarborough (T.W.).
- CRYPHIA** Huebner
- perla* (Schiff.)—MARBLED BEAUTY. Common in many localities.
- AMPHIPYRA** Ochsenheimer
- tragopoginis* (L.)—MOUSE. Common.
- GORTYNA** Ochsenheimer
- flavago* (Schiff.)—FROSTED ORANGE. Scarborough (T.W.).
- LUPERINA** Boisduval
- testacea* (Schiff.)—FLOUNCED RUSTIC. Fairly plentiful on Scarborough Castle Hill and at Hackness (A.S.T.).
- RUSINA** Stephens
- umbratica* (Goeze)—BROWN RUSTIC. Fairly common at sugar (A.S.T.).
- NONAGRIA** Ochsenheimer
- typhae* (Thunb.)—BULRUSH WAINSCOT. The larvae burrows in *Typha* stems at Scarborough Mere.
- PANEMERIA** Huebner
- tenebrata* (Scop.)—SMALL YELLOW UNDERWING. Scarborough (T.W., R.H.B.) ; plentiful at Pickering (A.S.).
- COSMIA** Ochsenheimer
- trapezina* (L.)—DUN-BAR. Common and widely distributed.
- CARADRINA** Ochsenheimer
- clavipalpis* (Scop.)—PALE MOTTLED WILLOW. Generally common.
- morpheus* (Hufn.)—MOTTLED RUSTIC. Scarborough, common at sugar (A.S.T.).
- taraxaci* (Huebn.)—RUSTIC. Scarborough (T.W.).
- MORMO** Ochsenheimer
- maura* (L.)—OLD LADY. Occasionally at sugar (A.S.T.).
- RHIZEDRA** Warren
- lutosa* (Huebn.)—LARGE WAINSCOT. One at Burniston at sugar, 1911 (A.S.T.).
- ARENOSTOLA** Hampson
- elymi* (Treit.)—LYME GRASS. Common on sand-hills at Auburn, south of Bridlington, just outside our area.
- pygmina* (Haw.) —SMALL WAINSCOT. Fairly common ; Throxenby Mere and near Falcon Inn (A.S.T.).

**PETILAMPA** Aurivillius

*minima* (Haw.)—SMALL DOTTED BUFF. Scarborough (T.W.).

**MERISTIS** Huebner

*trigrammica* (Hufn.)—TREBLE LINES. Fairly common at sugar.

**THALPOPHILA** Huebner

*matura* (Hufn.)—STRAW UNDERWING. Flamborough Head (E.H.) ; Pickering (A.S.).

**PHLOGOPHORA** Treitschke

*meticulosa* (L.)—ANGLE SHADES. Common ; it has occurred in almost every month in the year.

**EUPLEXIA** Stephens

*lucipara* (L.)—SMALL ANGLE SHADES. Common ; one year the larvae did much damage to ferns in greenhouses.

**XYLOPHASIA** Stephens

*remissa* (Huebner.)—DUSKY BROCADE. Common at sugar.

*crenata* (Hufn.)—CLOUDED BORDERED BRINDLE. Abundant at sugar. The var. *combusta* Haw. is almost as common as the type (A.S.T.).

*lithoxylea* (Schiff.)—LIGHT ARCHES. Fairly common at sugar.

*sublustris* (Esp.)—REDDISH LIGHT ARCHES. Scarborough (T.W.).

*monoglypha* (Hufn.)—DARK ARCHES. Abundant and variable ; black forms, var. *infusca* White are quite common.

*scolopacina* (Esp.)—SLENDER BRINDLE. Scarborough (T.W.).

*hepatica* (Huebner.)—CLOUDED BRINDLE. Scarborough (T.W.) ; not common (A.S.T.).

*furva* (Schiff.)—CONFUSED. Scarborough (S.M.).

**APAMEA** Ochsenheimer

*sordens* (Hufn.)—RUSTIC SHOULDER KNOT. Common at sugar.

*unanimis* (Huebner.)—SMALL CLOUDED BRINDLE. Uncommon in the Scarborough district.

*pabulatricula* (Brahm.)—UNION RUSTIC. Common at Scarborough (T.W.).

**CELAENA** Stephens

*haworthii* Curt.—HAWORTH'S MINOR. Abundant on peat bog near Falcon Inn (A.S.T.) ; Scarborough (T.W.).

*secalis* (L.)—COMMON RUSTIC. Very common at sugar.

**HYDRAECIA** Guenée

*micacea* (Esp.)—ROSY RUSTIC. Common in Scarborough district.

*petasitis* (Doubl.)—BUTTERBUR. Occasional ; Forge Valley.

*oculea* (L.)—EAR MOTH. Not uncommon at ragwort flowers. Scarborough (T.W.) ; moors above Hackness (A.S.T.).

**MIANA** Stephens

*litterosa* (Haw.)—ROSY MINOR. Common at sugar.

**PROCUS** Oken

*strigilis* (Clerck.)—MARBLED MINOR. Abundant at sugar, nearly all are var. *aethiops* (Haw.).

*fasciunculus* (Haw.)—MIDDLE-BARRED MINOR. Common and variable.

**HELIOTHIS** Ochsenheimer

**armigera** (Huebner.)—SCARCE BORDERED STRAW. A fine female example was taken at Scarborough by W. Simmons in 1866 (Ent. Ann., 1867, p. 153).

**EUXOA** Huebner

**obelisca** (Schiff.)—SQUARE-SPOT DART. Scarborough, not uncommon (T.W.).

**nigricans** (L.)—GARDEN DART. Occasional.

**tritici** (L.)—WHITE-LINE DART. Common.

**AGROTIS** Ochsenheimer

**segetum** (Schiff.)—TURNIP MOTH. Very common.

**clavis** (Hufn.)—HEART AND CLUB. Uncommon.

**exclamationis** (L.)—HEART AND DART. Very common.

**ypsilon** (von Rott.)—DARK SWORD GRASS. Abundant in Sept., 1911, at sugar (A.S.T.).

**EUROIS** Huebner

**occulta** (L.)—GREAT BROCADE. One female at rest, Wrench Green, -/8/1909 (A.S.T.).

**PERIDROMA** Huebner

**saucia** (Huebner.)—PEARLY UNDERWING. Occasional.

**LYCOPHOTIA** Huebner

**porphyrea** (Schiff.)—TRUE LOVER'S KNOT. Very common on all heaths.

**OCHROPLEURA** Huebner

**pecta** (L.)—FLAME SHOULDER. Common at sugar; it very readily takes to flight.

**GRAPHIPHORA** Ochsenheimer

**augur** (Fabr.)—DOUBLE DART. Very common.

**AMATHES** Huebner.

**agathina** (Dup.)—HEATH RUSTIC. Larvae common on **Calluna**.

**castanea** (Esp.)—NEGLECTED. Var. **neglecta** (Huebner.) occurs on Seamer Moor (A.S.T.).

**c-nigrum** (L.)—SETACEOUS HEBREW CHARACTER. Common.

**triangulum** (Hufn.)—DOUBLE SQUARE-SPOT. Not common.

**xanthographa** (Schiff.)—SQUARE-SPOT RUSTIC. Abundant and very variable.

**umbrosa** (Huebner.)—SIX-STRIPED RUSTIC. Common at light and ragwort bloom and occasionally at sugar.

**stigmatica** (Huebner.)—SQUARE-SPOTTED CLAY. Local; plentiful on Oliver's Mount (T.W.), and on sugar at Wrench Green (A.S.T.).

**glareosa** (Esp.)—AUTUMNAL RUSTIC. Common on the moors.

**depuncta** (L.)—PLAIN CLAY. Scarborough, sometimes abundant (T.W.).

**baja** (Schiff.)—DOTTED CLAY. Common.

**SPAELOTIS** Boisduval

**ravida** (Schiff.)—STOUT DART. Uncommon on Seamer Moor.



**DIARSIA** Huebner

*brunnea* (Schiff.)—PURPLE CLAY. Common.

*festiva* (Schiff.)—INGRAILED CLAY. Common and very variable.

*rubi* (View.)—SMALL SQUARE SPOT. Occasional.

*dahlia* (Huebner.)—BARRED CHESTNUT. Seamer Moor, on sugar and heather bloom (A.S.T.).

**TRIPHAENA** Ochsenheimer

*pronuba* (L.)—LARGE YELLOW UNDERWING. Abundant and variable, some with grey, almost glaucous, primaries.

*comes* (Huebner.)—LESSER YELLOW UNDERWING. Common.

*janthina* (Schiff.)—LESSER BROAD-BORDER. Not common; single specimens from Scarborough (A.S.T.), and Scalby (G.B.W.).

**AXYLIA** Huebner

*putris* (L.)—FLAME. Very common, Scarborough (S.M.), but not recorded for many years.

**PHALAENA** Linnaeus

*typica* L.—GOTHIC. Common.

**LAMPRA** Huebner

*fimbriata* (von Schreb.)—BROAD-BORDERED YELLOW UNDERWING. Occasional at sugar or as larva.

**CERASTIS** Ochsenheimer

*rubricosa* (Schiff.)—RED CHESTNUT. Common.

**GYPSITEA** Tams

*leucographa* (Schiff.)—WHITE-MARKED. Raincliffe Wood, somewhat uncommon.

**ANAPLECTOIDES** McDonnough

*prasina* (Schiff.)—GREEN ARCHES. Not uncommon in Raincliffe Wood and on Seamer Moor.

**BRACHIONYCHA** Huebner

*sphinx* (Hufn.)—SPRAWLER. Scarborough, common (T.W.); as larva at Wrench Green (A.S.T.).

**APOROPHYLA** Guenée

*lutulenta* (Schiff.)—DEEP-BROWN DART. Above Wrench Green, at edge of Moor (A.S.T.).

**CONISTRA** Huebner

*vaccinii* (L.)—CHESTNUT. Abundant.

**ANCHOSCELIS** Guenée

*lunosa* (Haw.)—LUNAR UNDERWING. Scarborough (T.W.), occasional (A.S.T.).

*helvola* (L.)—FLOUNCHED CHESTNUT. Common and very richly coloured.

*litura* (L.)—BROWN-SPOT PINION. Abundant at sugar.

**ATETHMIA** Huebner

*centrago* (Haw.)—CENTRE-BARRED SALLOW. Scarborough, not uncommon (T.W.); one in Avenue Road, 1948 and 1949 (E.O.).

**TILIACEA** Tutt

*citrago* (L.)—ORANGE SALLOW. Hayburn Wyke (G.T.P.); Raincliffe Wood (H.W.H.).



**CITRIA** Huebner

*lutea* (Stroem, H.)—PINK-BARRED SALLOW. Common and generally distributed.

**CIRRHIA** Huebner

*fulvago* (L.)—SALLOW. Common and generally distributed, ab. *flavescens* (Esp.) occurs.

*gilvago* (Schiff.)—DUSKY-LEMON SALLOW. Raincliffe Wood, 1900 (T.W.L.).

**AGROCHOLA** Huebner

*circellaris* (Hufn.)—BRICK. Common and widely distributed.

*lychnidis* (Schiff.)—BEARDED CHESTNUT. Scarborough (J.H.R.), not common.

*macilenta* (Huebner.)—YELLOW-LINE QUAKER. Common.

*lota* (Clerck)—RED-LINE QUAKER. Not common.

**PARASTICHTIS** Huebner

*suspecta* (Huebner.)—SUSPECTED. Seamer Moor at sugar (H.W.H.).

*ypsilon* (Schiff.)—DINGY SHEARS. Uncommon (A.S.T.).

**EUPSILIA** Huebner

*transversa* (Hufn.)—SATELLITE. Very common and variable; Raincliffe Wood at sugar in spring (E.O.).

**DASYPOLIA** Guenée

*templi* (Thunb.)—BRINDLED OCHRE. Common at Scarborough (T.W.), but only very occasional specimens of late years.

**ALLOPHYTES** Tams

*oxyacanthae* (L.)—GREEN BRINDLED CRESCENT. Common.

**CUCULLIA** Schrank

*chamomillae* (Schiff.)—CHAMOMILE SHARK. One at Scalby, -/6/1915 (A.S.T.).

*umbratica* (L.)—SHARK. Uncommon; Scarborough (T.W.); Seamer (G.B.W.).

*verbasci* (L.)—MULLEIN. Larvae on mullein, Scarborough (A.S.T.); on figwort in Forge Valley (G.B.W.).

**XYLENA** Ochsenheimer

*exoleta* (L.)—SWORD-GRASS. Common.

*vetusta* (Huebner.)—RED SWORD-GRASS. Scarborough (T.W.).

**LITHOMOIA** Huebner

*solidaginis* (Huebner.)—GOLDEN-ROD BRINDLE. Very local; Wrench Green (A.S.T.); Scarborough, probably Raincliffe Wood (T.W.).

**XYLOCAMPA** Guenée

*areola* (Esp.)—EARLY GREY. Common and widely distributed.

**GRIPPOSIA** Tams

*aprilina* (L.)—MERVEILLE DU JOUR. Common.

**ANTITYPE** Huebner

*chi* (L.)—GREY CHI. Common and widely distributed, especially on walls on the moors.

*flavicincta* (Schiff.)—LARGE RANUNCULUS. Common as both larva and moth.

**BOMBYCIA** Stephens*viminalis* (Fabr.)—MINOR SHOULDER-KNOT. Scarborough (T.W.).**EUMICHTIS** Huebner*lichena* (Huebner.)—FEATHERED RANUNCULUS. Common at Scarborough on Castle walls (J.B.).*adusta* (Esp.)—DARK BROCADE. Scarborough at sugar (A.S.T.).**DRYOBOTA** Lederer*protea* (Schiff.)—BRINDLED GREEN. Common.**LEUCANIA** (Ochsenheimer) Huebner*pudorina* (Schiff.)—STRIPED WAINSCOT. Scarborough (T.W.).*impura* (Huebner.)—SMOKY WAINSCOT. Occasional.*pallens* (L.)—COMMON WAINSCOT. Abundant at sugar. In 1911 specimens of a second brood in Sept. (A.S.T.).*lythargyria* (Esp.)—CLAY. Common.*conigera* (Schiff.)—BROWN-LINE BRIGHT-EYE. Common.*comma* (L.)—SHOULDER STRIPED WAINSCOT. Common.**ORTHOSIA** Ochsenheimer*incerta* (Hufn.)—CLOUDED DRAB. Abundant.*gracilis* (Schiff.)—POWDERED QUAKER. Scarborough, three specimens at sallow (E.O.).*stabilis* (Schiff.)—COMMON QUAKER. Abundant.*populi* (Stroem, H.)—LEAD-COLOURED DRAB. Scarborough (T.W.); larvae at Fylinghall (A.S.T.).*cruda* (Schiff.)—SMALL QUAKER. Common.*munda* (Schiff.)—TWIN-SPOTTED QUAKER. Sparingly at sallow.*gothica* (L.)—HEBREW CHARACTER. Abundant.**CHARAEAS** Stephens*graminis* (L.)—ANTLER MOTH. Generally distributed and at times common.**THOLERA** Huebner*popularis* (Fabr.)—FEATHERED GOTHIC. Scarborough (T.W.); Hackness at light (A.S.T.).**PANOLIS** Huebner*griseovariegata* (Goeze)—PINE BEAUTY. Fairly common and widely distributed.**HADA** Billberg*dentina* (Schiff.)—SHEARS. Uncommon.**HADENA** Schrank**S. HADENA** s.s.*consersa* (Schiff.)—MARBLED CORONET. Scarborough, not uncommon (T.W.).*lepida* (Esp.)—TAWNY SHEARS. Scarborough (T.W.).*bicruris* (Hufn.)—LYCHNIS. Flamborough Head (E.H.).*cucubali* (Schiff.)—CAMPION. Scarborough (T.W.); Levisham (A.S.T.).**S. HECATERA** Guenée*serena* (Schiff.)—BROAD-BARRED WHITE. Rare; Ganton (A.S.T.); bred from larvae, Scarborough (E.O.).

- glauc*a (Huebn.)—GLAUCOUS SHEARS. Widely distributed on all the moors but not common.
- S. LACANOBIA** Billberg  
*thalassina* (Hufn.)—PALE-SHOULDERED BROCADE. Fairly common.
- HELIOPHOBUS** Boisduval  
*saponariae* (Borkh.)—BORDERED GOTHIC. Sparingly most years at sugar on Seamer Moor (A.S.T.).
- DIATARAXIA** Huebner  
*oleracea* (L.)—BRIGHT-LINE BROWN-EYE. Common.
- CERAMICA** Guenée  
*pisi* (L.)—BROOM MOTH. Common.
- POLIA** (Ochsenheimer) Treitschke  
*nebulosa* (Hufn.)—GREY ARCHES. Fairly common at sugar, many dusky specimens.
- MAMESTRA** Ochsenheimer  
*brassicae* (L.)—CABBAGE MOTH. Abundant.
- MELANCHRA** Huebner  
*persicariae* (L.)—DOT. Common.
- ANARTA** Ochsenheimer  
*myrtili* (L.)—BEAUTIFUL YELLOW UNDERWING. Very common on all the moors during most of the summer.

## PLUSIIDAE

- ZANCLOGNATHA** Lederer  
*tarsipennalis* (Treit.)—FANFOOT. Scarborough on wild raspberry (T.W.).
- nemoralis* (Fabr.)—SMALL FANFOOT. Fairly common in the rides in Raincliffe Wood (A.S.T.).
- SCHRANKIA** Huebner  
*taenialis* (Huebn.)—WHITE-LINE SNOUT. Scarborough (T.W.).
- costaestrigalis* Steph.—PINION-STREAKED SNOUT. Scarborough (T.W.).
- HYPENA** Schrank  
*proboscidalis* (L.)—SNOUT. Common among nettles everywhere.
- OPHIUSA** Ochsenheimer  
*pastinum* Treit.—BLACKNECK. Common at Scarborough (G.T.P., J.H.R.) ; Burniston Wyke (A.S.T.) ; Pickering (A.S.).
- SCOLIOPTERYX** Germar  
*libatrix* (L.)—HERALD. Common most of the year.
- CATOCALA** Schrank  
*fraxini* (L.)—CLIFDEN NONPAREIL. One at Scarborough, -/9/1859 (T.W.) ; one in Spa grounds, 3/10/1896 (J.H.R.).
- nupta* (L.)—RED UNDERWING. Very rare ; one specimen under coping stone of Oliver's Mount School, 4/8/1876 (G.T.) ; one specimen in Spa gardens, -/9/53 (H.W.D.).
- EUCLIDIMERA** Hampson  
*mi* (Clerck)—MOTHER SHIPTON. Fairly common on the Wolds and on the moors where the limestone outcrops.

**ECTYPA** Billberg

*glyphica* (L.)—BURNET COMPANION. Occasional but well distributed.

**PHYTOMETRA** Haworth

*viridaria* (Clerck)—SMALL PURPLE-BARRED. Fairly common, usually where milkwort (*Polygala*) grows, on the moors and on the cliffs.

**POLYCHRISIA** Huebner

*moneta* (Fabr.)—GOLDEN PLUSIA. First seen in the district about 1919 and now quite common.

**PLUSIA** Ochsenheimer

*chrysis* (L.)—BURNISHED BRASS. Fairly common.

*bractea* (Schiff.)—GOLD SPANGLE. Rare ; Cayton Bay, one specimen, 6/7/1917 (G.W.T.).

*festucae* (L.)—GOLD SPOT. On iris at lower end of Langdale, fairly common (G.L.M.).

*iota* (L.)—PLAIN GOLDEN-Y. Fairly common.

*v-aureum* (Huebner.)—BEAUTIFUL GOLDEN-Y. Common.

*gamma* (L.)—SILVER-Y. Common, in some years abundant owing to immigration.

*interrogationis* (L.)—SCARCE SILVER-Y. Not uncommon on all the moors but especially near the Falcon Inn.

**ABROSTOLA** Ochsenheimer

*tripartita* (Hufn.)—SPECTACLE. Occasional, at one time very common ; Scarborough, 1943 (H.W.H.).

**EPISEMA** Ochsenheimer

*caeruleocephala* (L.)—FIGURE OF EIGHT. Common.

## LYMANTRIIDAE

**ORGYIA** Ochsenheimer

*antiqua* (L.)—VAPOURER. Fairly common.

**DASYCHIRA** Stephens

*pudibunda* (L.)—PALE TUSOCK. Very common at Scarborough (T.W.) ; larvae beaten at Broxa, 1947 (M.E., E.O.).

**EUPROCTIS** Huebner

*chrysorrhoea* (L.)—YELLOW-TAIL. Abundant.

*phaeorrhoea* (Don.)—BROWN-TAIL. Rare ; one specimen picked up in Scarborough (G.B.W.), also recorded by H. Marsh.

**LEUCOMA** Huebner

*salicis* (L.)—WHITE SATIN. Rare ; a single specimen (A.S.T.).

## STERRHIDAE

**STERRHA** Huebner

*aversata* (L.)—RIBAND WAVE. Common.

*dimidiata* (Hufn.)—SINGLE-DOTTED WAVE. Scarborough (T.W.).

**PYLARGE** Herrich-Schaeffer

*fumata* (Steph.)—SMOKY WAVE. Scarborough (G.T.P.).

**SCOPULA** Schrank

*remutaria* (Huebner.)—CREAM WAVE. Common.

- immutata* (L.)—LESSER CREAM WAVE. Scarborough (S.M.).  
*imitaria* (Huebn.)—SMALL BLOOD-VEIN. Scarborough (S.M.).  
*rubiginata* (Hufn.)—TAWNY WAVE. Scarborough (J.H.R.).  
**COSYMBIA** Huebner  
*trilinearis* (Borkh.)—CLAY TRIPLE LINES. Scarborough (S.M.).

## GEOMETRIDAE

- JODIS** Huebner  
*lactearia* (L.)—LITTLE EMERALD. Widely distributed and fairly common.  
**GEOMETRA** Linnaeus  
*papilionaria* (L.)—LARGE EMERALD. Fairly common in Raincliffe Wood.  
**PSEUDOTERPNA** Huebner  
*pruinata* (Hufn.)—GRASS EMERALD. Scarborough (T.W.).

## HYDRIOMENIDAE

- ACASIS** Duponchel  
*viretata* (Huebn.)—YELLOW-BARRED BRINDLE. Scarborough (T.W.) ; Hayburn Wyke (S.W.) ; Raincliffe Wood (M.E., E.O.).  
**TRICHOPTERYX** Huebner  
*carpinata* (Borkh.)—EARLY TOOTH-STRIPED. Scarborough, very common (T.W.) ; Seamer Moor, common on birches (G.B.W.).  
**LOBOPHORA** Curtis  
*halterata* (Hufn.)—SERAPHIM. Scarborough (G.T.P.).  
**CHLOROCLYSTIS** Huebner  
*coronata* (Gey.)—V-PUG. Scarborough (S.M.).  
*rectangulata* (L.)—GREEN PUG. Scarborough (S.M.) ; larvae plentiful in Forge Valley on wild apple (A.S.).  
**GYMNOSCELIS** Mabille  
*pumilata* (Huebn.)—DOUBLE-STRIPED PUG. Scarborough (S.M.).  
**EUPITHECIA** Curtis  
*venosata* (Fabr.)—NETTED PUG. Scarborough (T.W.).  
*goossensiata* Mab.—LING PUG. Larva abundant on *Calluna*.  
*absinthiata* (Clerck)—WORMWOOD PUG. Common near Scarborough (S.M.).  
*albipunctata* (Haw.)—WHITE-SPOTTED PUG. Scarborough (T.W.).  
*vulgata* (Haw.)—COMMON PUG. Common.  
*centaureata* (Schiff.)—LIME-SPECK PUG. Common and well distributed.  
*[icterata (de Vill., C. J.)] s. subfulvata* (Haw.)—TAWNY SPECKLED PUG. Flamborough Head (E.H.).  
*satyrata* (Huebn.)—SATYR PUG. Scarborough (S.M.).  
*pulchellata* Steph.—FOXGLOVE PUG. Scarborough (T.W.) ; Falling Foss (G.B.W.).  
*succenturiata* (L.)—BORDERED PUG. Scarborough (S.M.).  
*castigata* (Huebn.)—GREY PUG. Scarborough (F.O.M.).  
*lariciata* Frey.—LARCH PUG. Common in larch plantations.

- virgaureata* Doubt.—GOLDEN-ROD PUG. Scarborough (T.W.) ; Langdale (G.B.W.).
- plumbeolata* (Haw.)—LEAD-COLOURED PUG. Scarborough (S.M.).
- pygmeata* (Huebner.)—MARSH PUG. Scarborough (T.W.) ; Pickering (A.S.).
- tenuiata* (Huebner.)—SLENDER PUG. Larva not uncommon in sallow catkins.
- trisignaria* Herr.-Sch.—TRIPLE-SPOTTED PUG. Scarborough (T.W.).
- indigata* (Huebner.)—OCHREOUS PUG. Scarborough district, not uncommon on larch.
- abbreviata* Steph.—BRINDLED PUG. Very common (T.W.).
- dodoneata* Guen.—OAK-TREE PUG. Scarborough (T.W.).
- nanata* (Huebner.)—NARROW-WINGED PUG. Common on the moors.
- EUCYMATOGE** Huebner
- scabiosata* (Borkh.)—SHADED PUG. Scarborough (F.O.M.).
- HORISME** Huebner
- tersata* (Schiff.)—FERN. Scarborough (T.W.).
- CHESIAS** Treitschke
- legatella* (Schiff.)—STREAK. Scarborough (T.W.) ; Staintondale (G.B.W.).
- ANAITIS** Duponchel
- plagiata* (L.)—TREBLE-BAR. Scarborough (J.H.R.) ; Forge Valley (G.W.B.) ; Pickering (A.S.).
- CALOCALPE** Huebner
- undulata* (L.)—SCALLOP SHELL. Uncommon, but several specimens have occurred near Scarborough of late years (I.P.R., M.E., E.O.).
- LYGRIS** Huebner
- prunata* (L.)—PHOENIX. Fairly common.
- testata* (L.)—CHEVRON. Abundant wherever *Calluna* grows.
- populata* (L.)—NORTHERN SPINACH. Common on Silpho Moor and in Raincliffe Wood.
- mellinata* (Fabr.)—SPINACH. Common in gardens.
- EPIRRHOE** Huebner
- galiata* (Huebner.)—GALIAM CARPET. Common.
- alternata* (Muell., O. F.)—COMMON CARPET. Very common.
- tristata* (L.)—SMALL ARGENT AND SABLE. Scarborough (T.W.) ; common on Silpho Moor, at Staintondale (G.B.W.), and in other localities.
- EULYPE** Huebner
- hastata* (L.)—ARGENT AND SABLE. Scarborough (S.M.).
- LYNCOMETRA** Prout
- ocellata* (L.)—PURPLE-BAR. Scarborough district, common (A.S.).
- THERA** Stephens
- obeliscata* (Huebner.)—GREY PINE CARPET. Common.
- firmata* (Huebner.)—PINE CARPET. Common.



**CIDARIA** Treitschke*fulvata* (Forst.)—BARRED YELLOW. Scarborough (G.B.W.).**CHLOROCLYSTA** Huebner*miata* (L.)—AUTUMN GREEN CARPET. Scarborough (J.H.R.); Raincliffe Wood (E.O.).*siterata* (Hufn.)—RED-GREEN CARPET. Scarborough (T.W.).**HYDRIOMENA** Huebner*furcata* (Thunb.)—JULY HIGHFLYER. Abundant everywhere and very variable.*impluviata* (Schiff.)—MAY HIGHFLYER. Scarborough (S.M.).*ruberata* (Frey.)—RUDDY HIGHFLYER. Scarborough (T.W.); Hayburn Wyke, larvae common on old sallows on shore in Sept. (G.T.P., G.B.W.).**DYSSTROMA** Huebner*truncata* (Hufn.)—COMMON MARBLED CARPET. Common and very variable.*citrata* (L.)—DARK MARBLED CARPET. Common.**ECLIPTOPERA** Warren*silacea* (Schiff.)—SMALL PHOENIX. Common.**LAMPROPTERYX** Stephens*suffumata* (Schiff.)—WATER CARPET. Common.**ENTEPHRIA** Lederer*caesiata* (Schiff.)—GREY MOUNTAIN CARPET. Common.*flavicinctata* (Huebner.)—YELLOW-RINGED CARPET. Rare; one specimen near Scarborough, 16/7/1891 (R. South, Moths of the British Isles, II, 193).**EAROPHILA** Gumpenberg*badiata* (Huebner.)—SHOULDER STRIPE. Common among roses.**COENOTEPHRIA** Prout*derivata* (Schiff.)—STREAMER. Common.**EUPHYIA** Huebner*bilineata* (L.)—YELLOW SHELL. Abundant and variable.**PERIZOMA** Huebner*taeniata* (Steph.)—BARRED CARPET. Scarborough (T.W.).*alchemillata* (L.)—SMALL RIVULET. Scarborough (T.W.); Forge Valley, Pickering (A.S.).*affinitata* (Steph.)—RIVULET. Scarborough (T.W.); Forge Valley (A.S.).*albulata* (Schiff.)—GRASS RIVULET. Scarborough, fairly common.*flavofasciata* (Thunb.)—SANDY CARPET. Scarborough, common (T.W.).**MESOLEUCA** Huebner*albicillata* (L.)—BEAUTIFUL CARPET. Fairly common, Silpho Moor, Raincliffe Wood, etc.**ASTHENA** Huebner*albulata* (Hufn.)—SMALL WHITE WAVE. Scarborough (G.B.W.); Pickering, common; Langdale End (A.S.).**PELURGA** Huebner*comitata* (L.)—DARK SPINACH. Scarborough (T.W.).



**OPEROPHTHERA** Huebner*brumata* (L.)—WINTER MOTH. Abundant.*fagata* (Scharf.)—NORTHERN WINTER MOTH. Common.**EUCHOECA** Huebner*obliterata* (Hufn.)—DINGY SHELL. Fairly common.**HYDRELIA** Huebner*flammeolaria* (Hufn.)—SMALL YELLOW WAVE. Scarborough (T.W.) ; Pickering, common ; Forge Valley (A.S.).*sylvata* (Schiff.)—WAVED CARPET. Scarborough (T.W.).**DISCOLOXIA** Warren*blomeri* (Curt.)—BLOMER'S RIVULET. Widely distributed ; Pickering (F.O.M.) ; Scarborough (G.T.P., T.W.) ; Sledmere (G.T.P.) ; Raincliffe Wood, fairly common (G.B.W.).**OPORINIA** Huebner*dilutata* (Borkh.)—NOVEMBER MOTH. Abundant.*autumnata* (Borkh.)—AUTUMNAL MOTH. Common.*filigrammaria* Herr.-Sch.—SMALL AUTUMNAL CARPET. Scarborough (T.W.).**VENUSIA** Curtis*cambrica* Curt.—WELSH WAVE. Scarborough, common (T.W.) ; Forge Valley (A.S.).**XANTHORHOE** Huebner*designata* (Hufn.)—FLAME CARPET. Scarborough (T.W.).*munitata* (Huebner.)—RED CARPET. Scarborough (T.W.).*montanata* (Schiff.)—SILVER-GROUND CARPET. Abundant and somewhat variable.*fluctuata* (L.)—GARDEN CARPET. Abundant and variable.**LARENTIA** Treitschke*cervinalis* (Scop.)—MALLOW. Common at Scarborough ; larvae on mallow on Castle Hill.**ORTHOLITHA** Huebner*mucronata* (Scop.)—LEAD BELLE. Common near Scarborough and on the Wolds.*limitata* (Scop.)—SHADED BROAD-BAR. Plentiful.*bipunctaria* (Schiff.)—CHALK CARPET. Common on the cliffs, Filey (G.T.) ; Flamborough, very common (E.H.) ; Scarborough (G.T.P.).**CALOSTIGIA** Huebner*multistrigaria* (Haw.)—MOTTLED GREY. Scarborough (T.W., A.S.).*didymata* (L.)—TWIN-SPOT CARPET. Abundant.*salicata* (Huebner.)—STRIPED TWIN-SPOT CARPET. Scarborough (T.W.).*olivata* (Schiff.)—BEECH-GREEN CARPET. Scarborough (T.W.) ; Silpho Moor (G.B.W.) ; Forge Valley, Pickering (A.S.).*pectinataria* (Knoch)—GREEN CARPET. Scarborough (G.T.P.) ; Silpho Moor (G.B.W.).

## BREPHTIDAE

**ODEZIA** Boisduval*atrata* (L.)—CHIMNEY SWEEPER. Common.**ALSOPHILA** Huebner*aescularia* (Schiff.)—MARCH MOTH. Common.**BREPHTOS** Ochsenheimer*parthenias* (L.)—ORANGE UNDERWING. Common; Seamer Moor, Lady Edith's Drive (E.O.); Langdale (G.B.W., G.L.M.).  
*notha* (Huebner.)—LIGHT ORANGE UNDERWING. Scarborough (T.W.)

## SELIDOSEMIDAE

**OPISTHOGRAPTIS** Huebner*luteolata* (L.)—BRIMSTONE. Abundant.**SEMIOTHISA** Huebner*liturata* (Clerck)—TAWNY-BARRED ANGLE. Scarborough (T.W.); Silpho, fairly common (M.E., E.O.).**CHIASMIA** Huebner*clathrata* (L.)—LATTICED HEATH. Flamborough, common (E.H.); Scarborough, very common (G.T.P.); Burniston, common on cliffs (A.S.).**ITAMA** Huebner*brunneata* (Thunb.)—RANNOCH LOOPER. In "Yorkshire Lepidoptera," p. 208, G.T.P. records a specimen of this species taken at Scarborough by R. H. Barker in 1894 (Nat., March, 1895), and states that he has seen the moth. This record certainly needs confirmation.*wauaria* (L.)—V-MOTH. Common.**ECTROPIS** Huebner*punctulata* (Schiff.)—GREY BIRCH. Scarborough (S.M.).*bistortata* (Goeze)—ENGRAILED. Common.*crepuscularia* (Huebner.)—SMALL ENGRAILED. Raincliffe Wood, common (G.B.W.).**CLEORA** Curtis*lichenaria* (Hufn.)—BRUSSELS LACE. Not common but widely distributed. Scarborough (T.W.); Flamborough Head (E.H.); Raincliffe Wood, Wrench Green (G.B.W.).*repandata* (L.)—MOTTLED BEAUTY. Common.*rhomboidaria* (Schiff.)—WILLOW BEAUTY. Common.**BUPALUS** Leach*pinarius* (L.)—BORDERED WHITE. Common in pine woods.**EMATURGA** Lederer*atomaria* (L.)—COMMON HEATH. Abundant on the moors.**HEMEROPHILA** Stephens*abruptaria* (Thunb.)—WAVED UMBER. Scarborough (T.W., A.S.).**ERANNIS** Huebner*leucophaearia* (Schiff.)—SPRING USHER. Raincliffe Wood on old oaks (G.B.W.); Lady Edith's Drive (E.O.).*progemma* (Huebner.)—DOTTED BORDER. Abundant.

- aurantiaria** (Esp.)—SCARCE UMBER. Fairly common, Raincliffe Wood.
- defoliaria** (Clerck)—MOTTLED UMBER. Abundant.
- APOCHEIMA** Huebner
- hispidaria** (Schiff.)—SMALL BRINDLED BEAUTY. Scarborough (S.M.).
- PHIGALIA** Duponchel
- pilosaria** (Schiff.)—PALE BRINDLED BEAUTY. Common. Melanic forms are becoming increasingly common.
- LYCIA** Huebner
- hirtaria** (Clerck)—BRINDLED BEAUTY. Scarborough (T.W.).
- BISTON** Leach
- strataria** (Hufn.)—OAK BEAUTY. Scarborough (T.W., A.S.).
- betularia** (L.)—PEPPERED MOTH. Common. The melanic form, **doubledayaria** Mill., is now much commoner than the type.
- ABRAXAS** Leach
- grossulariata** (L.)—MAGPIE MOTH. Abundant. Black larvae are common but yield typical moths.
- sylvata** (Scop.)—CLOUDED MAGPIE. Raincliffe Wood and Forge Valley, very common. A lead-coloured form used to occur at Sledmere (R.H.B.).
- LIGDIA** Guenée
- adustata** (Schiff.)—SCORCHED CARPET. Scarborough (T.W.).
- LOMASPILIS** Huebner
- marginata** (L.)—CLOUDED BORDER. Common.
- THERIA** Huebner
- rupicaprararia** (Schiff.)—EARLY MOTH. Common.
- BAPTA** Stephens
- bimaculata** (Fabr.)—WHITE-PINION SPOTTED. Raincliffe Wood, -/5/1938 (H.W.H.).
- GNOPHOS** Treitschke
- obscurata** (Schiff.)—ANNULET. Plentiful on the coast (G.T.P.); Filey, Scarborough (G.T.P., A.S.); Flamborough Head (E.H.).
- LITHINA** Huebner
- chlorosata** (Scop.)—BROWN SILVER-LINE. Common among bracken.
- DYSCIA** Huebner
- fagaria** (Thunb.)—GREY SCALLOPED-BAR. Scarborough (T.W.); Silpho (E.H.).
- PERCONIA** Huebner
- strigillaria** (Huebn.)—GRASS WAVE. Scarborough (J.H.R.); very common on the moors (M.E., E.O.).
- CABERA** Treitschke
- pusaria** (L.)—COMMON WHITE WAVE. Abundant.
- ab. rotundaria** (Haw.)—ROUND-WINGED WAVE. Quite common.
- exanthemata** (Scop.)—COMMON WAVE. Common.
- OURAPTERYX** Leach
- sambucaria** (L.)—SWALLOW-TAIL MOTH. Common.

- ELLOPIA** Treitschke  
*prosapiaria* (L.)—BARRED RED. Common on pines.
- CAMPAEA** Lamarck  
*margaritata* (L.)—LIGHT EMERALD. Common.
- ANAGOGA** Huebner  
*pulveraria* (L.)—BARRED UMBER. Scarborough (J.H.R.); Pickering (A.S.).
- PLAGODIS** Huebner  
*dolabraria* (L.)—SCORCHED WING. Scarborough (T.W., G.B.W.); Pickering (A.S.).
- EPIONE** Duponchel  
*repandaria* (Hufn.)—BORDERED BEAUTY. Scarborough (T.W.); Pickering, Burniston (A.S.).
- SELENIA** Huebner  
*bilunaria* (Esp.)—EARLY THORN. Common.  
*lunaria* (Schiff.)—LUNAR THORN. Common.
- HYGROCHROA** Huebner  
*syringaria* (L.)—LILAC BEAUTY. Several specimens of moth and larva on Seamer Moor and Lady Edith's Drive in 1947-48 (M.E., E.O.).
- COLOTOIS** Huebner  
*pennaria* (L.)—FEATHERED THORN. Common.
- DEUTERONOMOS** Prout  
*alniaria* (L.)—CANARY-SHOULDERED THORN. Common (J.H.R.).  
*erosaria* (Schiff.)—SEPTEMBER THORN. Scarborough (T.W., A.S.).
- ENNOMOS** Treitschke  
*quercinaria* (Hufn.)—AUGUST THORN. Scarborough (S.M.).
- GONODONTIS** Huebner  
*bidentata* (Clerck)—SCALLOPED HAZEL. Common. Black forms are fairly common.
- CROCALLIS** Treitschke  
*elinguaria* (L.)—SCALLOPED OAK. Common.

## POLYPLOCIDAE

- HABROSYNE** Huebner  
*derasa* (L.)—BUFF ARCHES. Frequent at sugar in Raincliffe Wood some years, absent in others.
- THYATIRA** Ochsenheimer  
*batis* (L.)—PEACH BLOSSOM. Generally distributed, common in Raincliffe Wood.
- TETHEA** Ochsenheimer  
*duplaris* (L.)—LESSER SATIN MOTH. Occasional in Raincliffe Wood, Langdale.  
*or* (Schiff.)—POPLAR LUTESTRING. Common, Scarborough (T.W., A.S.).

**ASPHALIA** Huebner

*diluta* (Schiff.)—LESSER LUTESTRING. Scarborough (T.W., A.S.).

**ACHLYA** Billberg

*flavicornis* (L.)—YELLOW-HORNED. Generally common among birch on Seamer Moor and in Langdale.

**POLYPLOCA** Huebner

*ridens* (Fabr.)—FROSTED GREEN. Raincliffe Wood, once (H.W.H.).

## SPHINGIDAE

**MACROGLOSSA** Scopoli

*stellatarum* (L.)—HUMMING-BIRD HAWK MOTH. Common in some years owing to immigration, e.g., 1947, when it occurred all over the district; almost absent in other years.

**HIPPOTION** Huebner

*celerio* (L.)—SILVER-STRIPED HAWK MOTH. Very rare; Scarborough, female on doorpost, 13/9/1917 (D.W.B.); male at Falsgrave, 7/10/1920 (G.B.W.).

**DEILEPHILA** Laspeyres

*porcellus* (L.)—SMALL ELEPHANT HAWK MOTH. Occasional; commoner on the Wolds.

*elpenor* (L.)—LARGE ELEPHANT HAWK MOTH. Common in T. Wilkinson's time, but very rare at the beginning of the century (A.S.T.). Now quite common again, especially on Fuchsia.

**SPHINX** Linnaeus

*ligustri* L.—PRIVET HAWK MOTH. Rare; Scarborough (S.M.); has not been recorded since.

**ACHERONTIA** Ochsenheimer

*atropos* (L.)—DEATH'S-HEAD HAWK MOTH. Occurs most years in small numbers, depending on immigration.

**SMERINTHUS** Latreille

*ocellatus* (L.)—EYED HAWK MOTH. Rare in Mr. Tetley's time but now getting quite common. Ova taken in How Gill, 3/8/1927 (G.B.W.).

**DAPHNIS** Huebner

*nerii* (L.)—OLEANDER HAWK MOTH. A single specimen was taken near Scarborough Museum about 1927.

**CELERIO** Oken

[*lineata* Fabr.] *v. livornica* (Esp.)—STRIPED HAWK MOTH. One specimen taken at Scalby, 27/7/1946 (A.S.); a live specimen in fine condition was brought to the Museum in early August, 1952 (E. F. Gilmour).

*euphorbiae* (L.)—SPURGE HAWK MOTH. Stainton gives Scarborough as a locality but this record is very uncertain.

*galii* (von Rott.)—BEDSTRAW HAWK MOTH. Rare; three specimens were recorded by T. W.; one in 1888 by W. Copley; two on Seamer Moor in 1939 (I.P.R.); one was taken at marigold flowers, 1944, and brought to me (G.B.W.).

**HERSE** Oken

**convolvuli** (L.)—CONVOLVULUS HAWK MOTH. Another rare moth whose incidence depends entirely on immigration.

**LAOTHOE** Fabricius

**populi** (L.)—POPLAR HAWK MOTH. Very common, and very variable in colour.

## NOTODONTIDAE

**CLOSTERA** Samouelle

**pigra** (Hufn.)—SMALL CHOCOLATE-TIP. Scarborough (J.H.R.).

**NOTODONTA** Ochsenheimer

**ziczac** (L.)—PEBBLE PROMINENT. Generally common.

**dromedarius** (L.)—IRON PROMINENT. Common.

**DRYMONIA** Huebner

**dodonaea** (Schiff.)—MARBLED BROWN. Common at Scarborough (T.W.).

**ruficornis** (Hufn.)—LUNAR MARBLED BROWN. Scarborough, common (T.W., A.S.).

**PHEOSIA** Huebner

**gnoma** (Fabr.)—LESSER SWALLOW PROMINENT. Common.

**tremula** (Clerck)—SWALLOW PROMINENT. Common.

**PTEROSTOMA** Germar

**palpina** (L.)—PALE PROMINENT. Scarborough (T.W.) ; Silpho (M.E., E.O.).

**LOPHOPTERYX** Stephens

**capucina** (L.)—COXCOMB PROMINENT. Common and generally distributed.

**CERURA** Schrank

**vinula** (L.)—PUSS MOTH. Common.

**hermelina** (Goeze)—POPLAR KITTEN. Seamer Moor on aspen (A.S.T.) ; Harwood Dale (M.E., E.O.).

**furcula** (Clerck)—SALLOW KITTEN. Fairly common and widely distributed.

**bicuspis** (Borkh.)—ALDER KITTEN. This used to be taken in some numbers near Scarborough by T. Wilkinson, but has not been seen for many years ; Goathland (F.O.M.).

**PHALERA** Huebner

**bucephala** (L.)—BUFF-TIP. Fairly common.

## SATURNIIDAE

**SATURNIA** Schrank

**pavonia** (L.)—EMPEROR. Common on the moors.

## SATYRIDAE

**PARARGE** Huebner

**aegeria** (L.)—SPECKLED WOOD. Very local ; Scarborough (T.W.), but not seen for many years ; abundant in suitable seasons at Pickering.



**DIRA** Huebner

**megea** (L.)—WALL BUTTERFLY. Local ; used to occur at Scarborough, but disappeared for many years ; has now re-appeared and has been seen or taken on Irton Moor (H.W.D.) ; in lanes near Cayton (E.O.) ; Silpho Moor (M.E.). Now common.

**AGAPETES** Billberg

**galathea** (L.)—MARBLED WHITE. Local ; used to occur at Scarborough but died out, the last specimen being taken in Raincliffe Wood, 1901 (H.W.H.) ; one specimen Cayton Bay, 1929 (G.L.M.) ; since then specimens have been taken in Falsgrave Park (T.N.R.) ; Raincliffe Wood (M.E., E.O.). Locally common on the Wolds.

**EUMENIS** Huebner

**semele** (L.)—GRAYLING. Local ; once abundant on Scarborough Castle Hill, but now extinct there. Now rapidly spreading (1947), and to be found in suitable localities on the edge of the moors from Scarborough to Pickering, also on the Wolds.

**MANIOLA** Schrank

**tithonus** (L.)—GATEKEEPER. Not common ; occasional in the Scarborough area, abundant at Pickering in suitable seasons.

**jurtina** (L.)—MEADOW BROWN. Common in fields everywhere.

**COENONYMPHA** Huebner

**pamphilus** (L.)—SMALL HEATH. Common in the countryside generally.

**tullia** (Muell., O. F.)—LARGE HEATH. Very local ; on moors near its food-plant ; Falcon Inn, Murk Mire Moss, May Moss, Upper Langdale, etc. (M.E.).

**APHANTOPUS** Wallengren

**hyperanthus** (L.)—RINGLET. Local ; once common near Scarborough, but it disappeared ; in several localities, however, of late years, Scarborough (M.E., E.O.), Wykeham, locally common at Pickering and on the Wolds.

## NYMPHALIDAE

**ARGYNNIS** Fabricius

**selene** (Schiff.)—SMALL PEARL-BORDERED FRITILLARY. Locally common in the dales and on the moors. Fond of marshy ground covered with *Juncus*, on which it rests, the underside closely resembling the brown flower-heads.

**euphrosyne** (L.)—PEARL-BORDERED FRITILLARY. Local ; less common than *selene* ; only in the dales.

**lathonia** (L.)—QUEEN OF SPAIN FRITILLARY. Very rare ; a single specimen, Oliver's Mount, -/9/1868 (J.H.R.).

**cydippe** (L.)—HIGH BROWN FRITILLARY. Very local ; Scarborough (T.W.), no recent record. Common at Pickering ; one record from the Wolds.

**paphia** (L.)—SILVER-WASHED FRITILLARY. Local ; Scarborough district (J.H.R.) ; common at Pickering.



**aglaja** (L.)—DARK-GREEN FRITILLARY. Common near the head of most of the dales and in the Wold valleys.

**VANESSA** Fabricius

**atalanta** (L.)—RED ADMIRAL. Common, sometimes abundant, depending on immigration; occurs almost every year.

**cardui** (L.)—PAINTED LADY. A fairly frequent visitor, sometimes common, as in 1928, 1933 and 1945.

**AGLAIS** Dalman

**urticae** (L.)—SMALL TORTOISESHELL. Common and generally distributed.

**NYMPHALIS** Kluk

**polychloros** (L.)—LARGE TORTOISESHELL. Rare; Pickering (T.W.).

**io** (L.)—PEACOCK. Uncommon; at one time very rare, now a few specimens are seen every year.

**antiopa** (L.)—CAMBERWELL BEAUTY. Rare; Oliver's Mount, two in 1872, one in 1899 (J.H.R.), one in 1932 (G.B.W.); Beedale, one in 1897 (J.H.R.); Pickering; Scalby, 1947 (C.B.).

**POLYGONIA** Huebner

**c-album** (L.)—COMMA. Rare; recorded as abundant at Scarborough (T.W.); not seen for many years until 1942, when three specimens were seen in Peasholm Glen (G.B.H.); Pickering (A.S.); Langdale (E.O.). Now fairly common.

RIODINIDAE

**HAMEARIS** Huebner

**lucina** (L.)—DUKE OF BURGUNDY FRITILLARY. Locally common; Scarborough (E.B.); Pickering very common, Thornton-le-Dale, Langdale End (D.W.B.).

LYCAENIDAE

**CUPIDO** Schrank

**minimus** (Fuess.)—SMALL BLUE. Rare; very common at Scarborough (T.W.), but has not occurred for many years; plentiful at Pickering in the 1880's.

**PLEBEIUS** Linnaeus

**argus** L.—SILVER-STUDDERED BLUE. Rare; Scarborough (T.W.), once plentiful at Pickering.

**ARICIA** R. L.

**agestis** (Schiff.)—BROWN ARGUS. Locally common; Scarborough (G.T.); very common on Haugh Rigg near Pickering, and in the Wold valleys where rock-rose is common.

**POLYOMMATUS** Latreille

**icarus** (von Rott.)—COMMON BLUE. Generally distributed and common.

**CELASTRINA** Tutt

**argiolus** (L.)—HOLLY BLUE. Rare; specimens of the spring brood have been taken at Scarborough (H.W.D.), and of the late

summer brood on Seamer Moor (E.O.) ; plentiful at Pickering ; Langdale (M.E.) ; spreading.

**LYCAENA** Fabricius

**phlaeas** (L.)—SMALL COPPER. Very common all over the district.

**CALLOPHRYS** Billberg

**rubi** (L.)—GREEN HAIRSTREAK. Common on the moors where bilberry grows, sometimes abundant.

**STRYMON** Huebner

**w-album** (Knoch)—WHITE-LETTER HAIRSTREAK. Rare ; Raincliffe Wood (T.W., H.W.H.) ; Forge Valley (H.W.H.).

## PIERIDAE

**PIERIS** Schrank

**brassicae** (L.)—LARGE WHITE. Very common, in some years especially abundant. Sometimes added to by migration from the Continent, e.g., 1940.

**rapae** (L.)—SMALL WHITE. Very common ; pale buff forms sometimes occur in both the spring and the summer broods.

**napi** (L.)—GREEN-VEINED WHITE. Common, especially in woods and dales.

**EUCHLOE** Huebner

**cardamines** (L.)—ORANGE TIP. Fairly common ; apparently commoner in recent years, especially as one moves west in the district.

**COLIAS** Fabricius

**crocea** (Geoffr.)—CLOUDED YELLOW. Rare, an occasional migrant. Scarborough (T.W.) ; Flamborough Head (W.B.T.) ; Robin Hood's Bay (G.B.W.) ; Burniston Cliff (I.P.R.) ; common all over the district in 1947, when there were three broods, including the pale form **helice** (**pallida**).

**GONEPTERYX** Leach

**rhamni** L.—BRIMSTONE. Very rare ; only very few specimens have been seen here, although recorded as of general occurrence in Yorkshire (G.T.P.).

## HESPERIIDAE

**ERYNNIS** Schrank

**tages** (L.)—DINGY SKIPPER. Widely distributed but local ; Scarborough, Langdale, Beast Cliff, Pickering.

**THYMELICUS** Huebner

**sylvestris** (Poda)—SMALL SKIPPER. Common near Scarborough and Pickering, in the dales, on the moors and Wolds.

**HESPERIA** Fabricius

**comma** (L.)—SILVER-SPOTTED SKIPPER. Very rare ; Scarborough (E.B., "Newman's British Butterflies"). It may possibly occur on the Wolds.

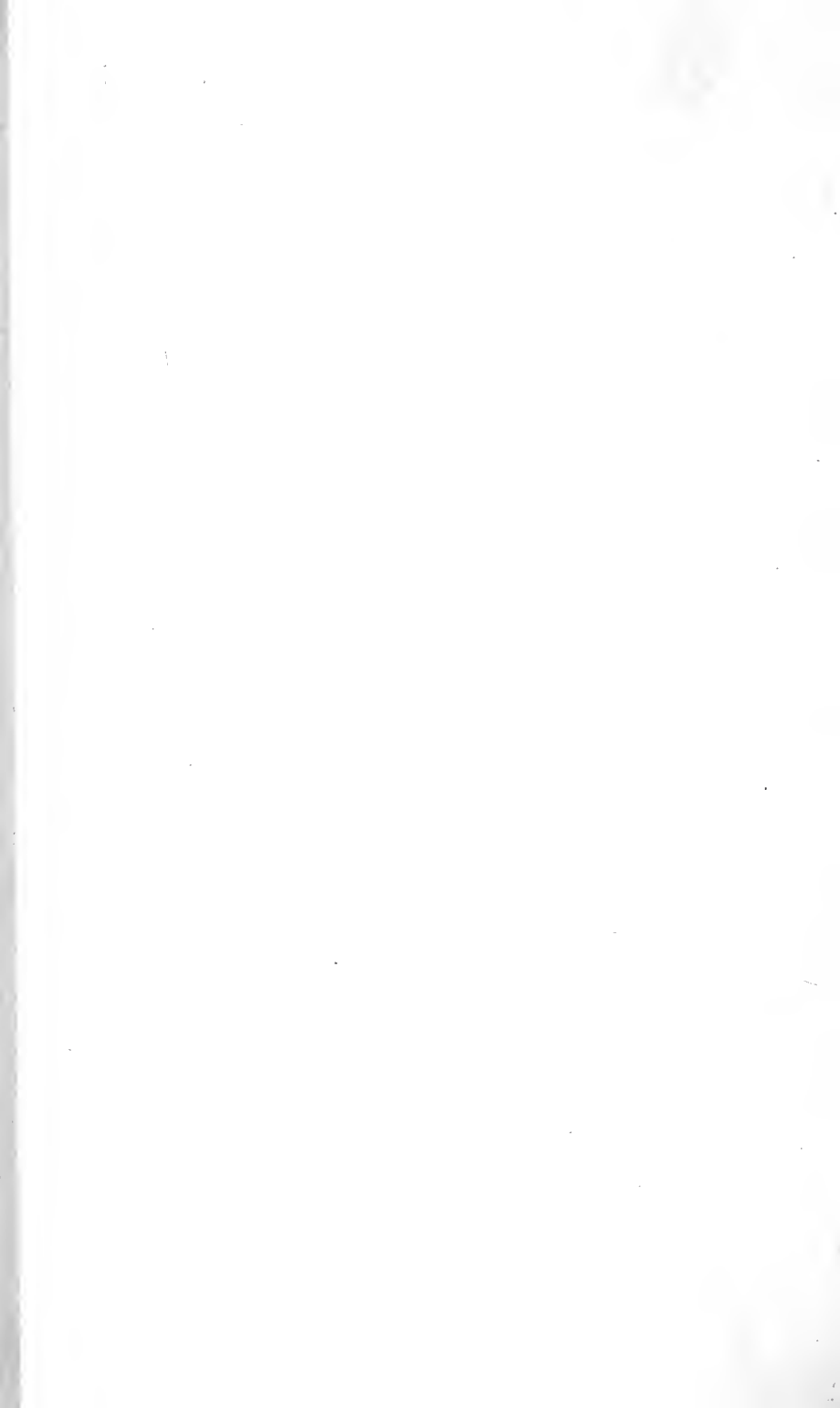
**AUGIADES** Huebner

[**venata** (Bremer & Grey)] s. **septentrionalis** (Ver.)—LARGE SKIPPER. Commoner than the Small Skipper.



LARVAE OF LARGE WHITE BUTTERFLY (*Pieris brassicae* (L.))  
EMERGING FROM EGGS

Photograph : Vincent J. Watson, F.R.P.S.



## DREPANIDAE

**CILIX** Leach

*glauca* (Scop.)—CHINESE CHARACTER. Seamer Moor, occasional at dusk (A.S.T.).

**DREPANA** Schrank

*lacertinaria* (L.)—SCALLOPED HOOK-TIP. Seamer Moor, fairly common on birches.

*falcata* (L.)—PEBBLE HOOK-TIP. Fairly common and generally distributed.

## PHYCITIDAE

**SALEBRIA** Zeller

*fusca* (Haw.)—Common on the moors where the heather has been burnt.

**DIORYCTRIA** Zeller

*abietella* (Schiff.)—Not uncommon, Scarborough (T.W., A.S.).

**EPHESTIA** Guenée

*kuehniella* Zell.—Abundant in flour-stores.

*elutella* (Huebner.)—Very common.

**HOMOEOSOMA** Curtis

*nimbella* (Dup.)—Flamborough Head (E.H.) ; Scarborough in seeds of yarrow (T.W.).

*nebulella* (Schiff.)—Not common. Flamborough Head (E.H.) ; Scarborough (T.W.).

**EURHODOPE** Huebner

*advenella* (Zinck.)—Scarborough (T.W.).

**ACROBASIS** Zeller

*consociella* (Huebner.)—Not common, Scarborough (T.W.).

*tumidella* (Zinck.)—Scarborough (T.W.).

## GALLERIIDAE

**ACHROIA** Huebner

*grisella* (Fabr.)—Old comb containing this moth was given me by D. W. Bevan (G.B.W.).

**APHOMIA** Huebner

*sociella* (L.)—Several at Burniston, 26/7/1937 (A.S.).

## CRAMBIDAE

**CRAMBUS** Fabricius

*hamellus* (Thunb.)—Scarborough (T.W., A.S.) ; one at Pickering (A.S.).

*pratellus* (L.)—Common.

*culmellus* (L.)—Very common.

*hortuellus* (Huebner.)—Very common.

*pinellus* (L.)—Scarborough, -/7/1938 (A.S.).

*margaritellus* (Huebner.)—Plentiful in damp parts of the moors above Cloughton, 17/5/1939, and beyond the Falcon Inn, 17/8/1945 (A.S.).

*inquinatellus* (Schiff.)—Scarborough (T.W.).

*tristellus* (Schiff.)—Very common.  
*selasellus* (Huebn.)—Scarborough (T.W.).

**CHILO** Zincken

*phragmitellus* (Huebn.)—Scarborough, abundant (T.W.).

## PYRAUSTIDAE

**NYMPHULA** Schrank

*nymphaeata* (L.)—Scarborough (J.H.).  
*stagnata* (Don.)—Scarborough (J.H.).  
*stratiotata* (L.)—Scarborough, not uncommon (T.W.).

**PHLYCTAENIA** Huebner

*crocealis* (Huebn.)—Scarborough (T.W., A.S.).  
*lutealis* (Huebn.)—Common.  
*ferrugalis* (Huebn.)—Scarborough (T.W.).  
*nivealis* (Fabr.)—Common.  
*terrealis* (Treit.)—Scarborough (T.W.).  
*fuscalis* (Schiff.)—Scarborough, plentiful (A.S.T.).

**NOMOPHILA** Huebner

*noctuella* (Schiff.)—Flamborough Head (E.H., A.S.).

**PYRAUSTA** Schrank

*olivalis* (Schiff.)—Common.

**LOXOSTEGE** Huebner

*sticticalis* (L.)—Scarborough, formerly abundant (T.W.).

**SCOPARIA** Haworth

*resinea* (Haw.)—Not common. Scarborough on ash trees (T.W.).  
*angustea* (Steph.)—Scarborough (T.W.).  
*murana* (Curt.)—Scarborough (T.W.).  
*truncicolella* (Staint.)—Scarborough, fairly common (T.W.).  
*pallida* (Steph.)—Scarborough (T.W.).  
*cembrae* (Haw.)—Common, Scarborough (T.W., A.S.).  
*ambigualis* (Treit.)—Very common.

**MESOGRAPHE** Huebner

*forficalis* (L.)—Common.

## PYRALIDIDAE

**PYRALIS** Linnaeus

*farinalis* (L.)—Common.

**AGLOSSA** Latreille

*pinguinalis* (L.)—Common.

## ALUCITIDAE

**OXYPTILUS** Zeller

*parvidactylus* (Haw.)—Scarborough (S.M.), but Mr. Porritt seems to think it a doubtful record.

**PLATYPTILIA** Huebner

*acanthodactyla* (Huebn.)—Scarborough (S.M.).  
*gonodactyla* (Schiff.)—Fairly common among coltsfoot.  
*ochrodactyla* (Schiff.)—Scarborough, common among tansy (T.W.).



**STENOPTILIA** Huebner

**bipunctidactyla** (Scop.)—Common ; Scarborough (S.M.) ; Langdale End (A.S.) ; Flamborough Head (E.H.).

**pterodactyla** (L.)—Common.

**ALUCITA** Linnaeus

**tridactyla** (L.)—Scarborough (T.W.) ; Pickering in quarry, 8/7/1941 (A.S.).

**pentadactyla** (L.)—Common.

**ADAINA** (Tutt) Meyrick

**microdactyla** (Huebner.)—Scarborough, plentiful among *Eupatorium cannabinum* (T.W.).

**OIDAEMATOPHORUS** Wallengren

**osteodactylus** (Zell.)—Scarborough 28/6/1912 (A.S.T., A.S.).

**tephradactylus** (Huebner.)—Scarborough (T.W.).

**lithodactylus** (Treit.)—Scarborough, very common (T.W., A.S.).

**monodactylus** (L.)—Common, Scarborough, Pickering (A.S.).

## LASIOCAMPIDAE

**LASIOCAMPA** Schrank

**quercus** (L.)—OAK EGGAR. Abundant on the moors ; ours is the northern form *callunae* Palm.

**POECILOCAMPA** Stephens

**populi** (L.)—DECEMBER MOTH. Scarborough, common (T.W.) ; Forge Valley, Sawdon Dale (G.B.W.).

**ERIOGASTER** Germar

**lanestris** (L.)—SMALL EGGAR. Scarborough (T.W.), not now common ; Pickering (A.S.).

**MACROTHYLACIA** Rambur

**rubi** (L.)—FOX MOTH. Common on the moors and on wild places on the cliffs.

**PHILUDORIA** Kirby, W. F.

**potatoria** (L.)—DRINKER MOTH. From 1902-12 decidedly uncommon, but it has gradually increased until now it is quite common in suitable places, especially on the cliffs.

## ZYGAEINIDAE

**ZYGAEINA** Fabricius

**filipendulae** (L.)—SIX-SPOT BURNET. Fairly common ; Fylinghall (A.S.T.) ; Filey, Langdale End, larvae abundant (G.B.W.) ; Flamborough (S.L.M.).

**loniceræ** (von Schev.)—NARROW-BORDERED FIVE-SPOT BURNET. Abundant in many places, both on the coast and inland.

**PROCRIS** Fabricius

**geryon** (Huebner.)—CISTUS FORESTER. Common on the Wolds near Wold Newton (M.E., E.O.) ; Pickering (A.S.).

**statices** (L.)—FORESTER. In great numbers on Flixton Carr (A.S.T.) ; common in a marshy field near Raincliffe Wood (G.B.W., G.L.M.).



## COSSIDAE

## COSSUS Fabricius

*cossus* (L.)—GOAT MOTH. Scarborough (T.W.). There has been no record for many years.

## PHALONIIDAE

## PHALONIA Huebner

*rubigana* (Treit.)—Scarborough (T.W.).

*cnicana* (Doubl., H.)—Scarborough (T.W.) ; Forge Valley, 1/5/1946 (A.S.).

*tesserana* (Schiff.)—Scarborough (T.W.) ; Pickering (A.S.).

*ciliella* (Huebner.)—Plentiful at Pickering in June (A.S.).

*nana* (Haw.)—Common.

*atricapitana* (Steph.)—Flamborough Head (E.H.) ; Scarborough (T.W.) ; Burniston Cliff, 21/6/1946 (A.S.).

*hybridella* (Huebner.)—Scarborough from seedheads of *Picris hieracioides* (T.W.) ; Pickering (A.S.).

## COCHYLIS Treitschke

*subbaumanniana* (Wilk., S. J.)—Pickering, 6/7/1941 (A.S.).

*hartmanniana* (Clerck)—Langdale End, common (A.S.).

## PHTHEOCHROA Stephens

*sodaliana* (Haw.)—Scarborough on *Hieracium* (T.W.).

*maculosana* (Haw.)—Forge Valley, plentiful, 5/6/1943 (A.S.).

## EUXANTHIS Huebner

*angustana* (Huebner.)—Very common on the moors (A.S.).

*straminea* (Haw.)—Flamborough Head, common (E.H.).

*zoëgana* (L.)—Flamborough Head (E.H.) ; Scarborough, Pickering (A.S.).

*hamana* (L.)—Flamborough Head (E.H.).

## IDIOGRAPHIS Lederer

*inopiana* (Haw.)—Scarborough, common among fleabane (T.W.).

## TORTRICIDAE

## DITULA Stephens

*angustiorana* (Haw.)—Common.

## EPAGOGE Huebner

*vulgana* (Froel.)—Scarborough, Pickering, common (A.S.).

*grotiana* (Fabr.)—Scarborough, one specimen, 1/9/1928 (A.S.).

## PHILEDONE Huebner

*gerningana* (Schiff.)—Common on the moors (A.S.).

## CACOECIA Huebner

*oporana* (L.)—Common.

*xylosteara* (L.)—Common.

*rosana* (L.)—Very common.

*hebenstreitella* (Muell., O. F.)—Pickering (A.S.).

*lecheana* (L.)—Scarborough (T.W., A.S.).

## PANDEMIS Huebner

*corylana* (Fabr.)—Fairly common.

*heparana* (Schiff.)—Common.

*cerasana* (Huebn.)—Common.

**TORTRIX** Linnaeus

*loefflingiana* (L.)—Common.

*viridana* (L.)—Abundant, often defoliating oak.

*paleana* (Huebn.)—Flamborough Head (E.H.) ; Scarborough (T.W.) ; Pickering (A.S.).

*viburnana* Schiff.—Common (T.W.).

*forsterana* (Fabr.)—Scarborough (A.S.).

*musculana* Huebn.—Common.

**EULIA** Huebner

*ministrana* (L.)—Common.

*pulchellana* (Haw.)—Moors near Scarborough, abundant among bilberry.

**TORTRICOIDES** Guenée

*tortricella* (Huebn.)—Common.

**CNEPHASIA** Curtis

*osseana* (Scop.)—Common, Pickering (A.S.).

*interjectana* (Haw.)—Common.

*octomaculana* Curt.—Scarborough (T.W.).

*incertana* (Treit.)—Common.

*nubilana* (Huebn.)—Common.

**ISOTRIAS** Meyrick

*trifasciana* (Don.)—Common.

**OLINDIA** Guenée

*ulmana* (Huebn.)—Scarborough (A.S.).

**ARGYROTOZA** Stephens

*bergmanniana* (L.)—Common.

*conwayana* (Fabr.)—Common.

**PERONEA** Curtis

*holmiana* (L.)—Common.

*rhombana* (Schiff.)—Very common about hawthorn.

*aspersana* (Huebn.)—Scarborough (T.W.) ; Pickering (A.S.).

*calidoniana* (Steph.)—Pickering, plentiful in July and August (A.S.).

*ferrugana* (Schiff.)—Pickering, common (A.S.).

*latifasciana* (Haw.)—Common.

*variegana* (Schiff.)—Very common.

*rufana* (Schiff.)—Abundant on willow and sweet-gale (T.W.).

*sparsana* (Schiff.)—Common.

*mixtana* (Huebn.)—Scarborough, abundant on *Erica tetralix* and *E. cinerea* (T.W., A.S.).

*hastiana* (L.)—Scarborough (T.W.) ; Pickering (A.S.).

*literana* (L.)—Scarborough, common (T.W.) ; Pickering (A.S.).

*boscana* (Fabr.)—Flamborough Head (E.H.).

**EUCOSMIDAE**

**SPILONOTA** Stephens

*ocellana* (Schiff.)—Common.

**EVETRIA** Huebner

*pinivorana* (Zell.)—Scarborough, among firs (T.W.).

**ANCYLIS** Huebner

*myrtillana* Treit.—Near Scarborough on bilberry (T.W.).

*unguicella* (L.)—Scarborough (T.W.).

*diminutana* (Haw.)—Pickering (A.S.).

*mitterbacheriana* (Schiff.)—Langdale End (A.S.).

*laetana* (Fabr.)—Scarborough (T.W.) ; Pickering (A.S.).

**NOTOCELIA** Huebner

*uddmanniana* (L.)—Common.

*rosaecolana* Doubl.—Pickering, common (A.S.).

**EUCOSMA** Huebner

*rheediana* (Haw.)—Scarborough on honeysuckle (T.W.) ; Pickering (A.S.).

*mercuriana* (Froel.)—Scarborough (T.W.).

*griseana* (Huebner.)—Scarborough (T.W.).

*myrtillana* (Westw.)—Scarborough (T.W.) ; near Flask Inn (G.B.W.).

*ratzeburgiana* (Sax.)—Scarborough among firs (T.W.).

*isertana* (Fabr.)—Common.

*trimaculana* (Don.)—Common.

*nigromaculana* (Haw.)—Scarborough (T.W., A.S.).

*pupillana* (Clerck)—Near Scarborough, abundant about wormwood (T.W.).

*cana* (Haw.)—Scarborough (A.S.).

*hohenwartiana* (Schiff.)—Common.

*pflugiana* (Fabr.)—Flamborough Head (E.H.).

*costipunctana* (Haw.)—Common on the Wolds (A.S.).

*cynosbatella* (L.)—Common.

*penkleriana* (Fisch. von Roesl.)—Scarborough, common (T.W.).

*bilunana* (Haw.)—Scarborough, rather common among birches (T.W.).

*crenana* (Huebner.)—Scarborough, common (T.W.).

*tetraquetra* (Haw.)—Common.

*triquetra* (Haw.)—Scarborough, common (T.W.).

*tedella* (Clerck)—Pickering, common (A.S.).

*maculana* (Fabr.)—Scarborough, common among poplars (T.W., A.S.).

*solandriana* (L.)—Common.

*semifuscana* (Steph.)—Scarborough (A.S.).

**BACTRA** Stephens

*lancealana* (Huebner.)—Common.

*furfurana* (Haw.)—Scarborough, not common (T.W.).

**POLYCHROSIS** Ragonot

*fuligana* (Schiff.)—Scarborough (T.W.).

**ENDOTHENIA** Stephens

*fuligana* (Haw.)—Scarborough (T.W.).

**ARGYROPOLOCE** Huebner

*semifasciana* (Haw.)—Scarborough, among willows (T.W.).

*lineana* (Schiff.)—Scarborough (T.W.).

*corticana* (Schiff.)—Scarborough (T.W., A.S.).  
*sororculana* (Zett.)—Scarborough (T.W., A.S.).  
*nubiferana* (Haw.)—Common.  
*pruniana* (Huebn.)—Common.  
*sauciana* (Gey. in Huebn.)—Scarborough (T.W.).  
*arcuella* (Clerck)—Scarborough (T.W.).  
*micana* (Froel.)—Scarborough (T.W.).  
*lacunana* (Schiff.)—Common.  
*aemulana* (Huebn.)—Common.

**HEMIMENE** Huebner

*petiverella* (L.)—Pickering, common (A.S.).  
*acuminatana* Zell.—Burniston, common on cliffs (A.S.).  
*plumbana* (Scop.)—Pickering, very common (A.S.).

**PAMMENE** Huebner

*splendidulana* (Guen.)—Scarborough (T.W.) ; Pickering (A.S.).  
*argyrana* (Huebn.)—Scarborough (T.W., A.S.) ; Pickering (A.S.).  
*spiniana* (Dup.)—Scarborough, flies in the afternoon sunshine (T.W.).  
*populana* (Fabr.)—Scarborough, larvae in shoots of willow (T.W.).  
*regiana* (Zell.)—Scarborough, very common ; larvae feed under loose bark of sycamore (T.W.).  
*trauniana* (Schiff.)—Scarborough (T.W.).

**ENARMONIA** Huebner

*tenebrosana* (Dup.)—Scarborough, larvae feed in rose-hips (T.W.).  
*funebrana* (Treit.)—Scarborough, larvae feed inside plums (T.W.).  
*aurana* (Fabr.)—Scarborough (T.W.) ; Flamborough Head (E.H.).  
*pomonella* (L.)—Scarborough, larvae within apples (T.W.).  
*aspidiscana* (Steph.)—Scarborough (T.W., A.S.).  
*succedana* (Schiff.)—Scarborough, common among gorse (T.W.) ; swarms at Pickering (A.S.).  
*internana* (Guen.)—With the preceding.  
*orobana* (Treit.)—Bred from larvae in the pods of *Vicia sylvatica* on the cliffs to the north of Scarborough (T.W.).  
*dorsana* (Fabr.)—Scarborough, larvae in pods of *Lathyrus tuberosus* (T.W.) ; Pickering (A.S.).  
*nigricana* (Fabr.)—Common in pea-pods.  
*strobilella* (L.)—Scarborough (T.W.).  
*coniferana* (Ratz.)—Scarborough (T.W.).

**GELECHIIDAE****METZNERIA** Zeller

*lappella* (L.)—Scarborough in seeds of burdock (T.W.).  
*carlinella* (Staint.)—Scarborough among carline thistle (T.W.).  
*metzneriella* (Staint.)—Scarborough, very common among knapweed (T.W., A.S.).

**PSAMATHOCRITA** Meyrick

*osseella* (Staint.)—Yedmandale and Forge Valley, freely on the wing in early June (T.W.).

**ARISTOTELIA** Huebner

**tenebrella** (Huebner.)—Scarborough, very common (T.W., J.S.);  
Troutsdale, 18/6/1946 (A.S.).

**pulveratella** (Herr.-Schaeff.)—Scarborough (T.W.).

**ericinella** (Dup.)—Common on the moors.

**hermannella** (Fabr.)—Scarborough, larva on leaves of **Chenopodium** (T.W.).

**RECURVARIA** Haworth

**leucatella** (Clerck)—Scarborough (S.M.); Pickering (A.S.).

**EXOTELEIA** Wallengren

**dodecella** (L.)—Scarborough, larvae in shoots of Scots pine (T.W.).

**XENOLECHIA** Meyrick

**aethiops** (Westw.)—Scarborough, very common on **Calluna** (T.W.);  
Pickering (A.S.).

**notatella** (Huebner.)—Scarborough (T.W.).

**proximella** (Huebner.)—Scarborough, very common (T.W.).

**fugitivella** (Zell.)—Scarborough, common (S.M.).

**vulgella** (Huebner.)—Scarborough, common (S.M.).

**sequax** (Haw.)—Scarborough (S.M.).

**BRYOTROPHA** von Heinemann

**domestica** (Haw.)—Scarborough (S.M.).

**senectella** (Zell.)—Scarborough (S.M., A.S.).

**desertella** (Dougl.)—Scarborough (S.M.).

**terrella** (Schiff.)—Common and generally distributed.

**GELECHIA** Huebner

**diffinis** (Haw.)—Scarborough, very common. Larva is found in a  
burrow at root of **Rumex acetosella** (T.W., J.S.).

**mulinella** Zell.—Very common among gorse.

**longicornis** (Curt.)—Scarborough (S.M.).

**betulae** (Haw.)—Very common on the moors.

**rhombella** (Schiff.)—Scarborough, very common; larva on apple  
(T.W., J.S.).

**cuneatella** Dougl.—Scarborough on willow (T.W.).

**solutella** Zell.—Scarborough (T.W.).

**PLATYEDRA** Meyrick

**malvella** (Huebner.)—Scarborough, in gardens about hollyhocks  
(T.W.).

**PHTHORIMAEA** Meyrick

**plantaginella** (Staint.)—Flamborough Head (E.H.); Scarborough,  
very common (T.W.).

**artemisiella** (Treit.)—Scarborough, very common (S.M.).

**acuminatella** (Sirc.)—Scarborough on thistle (T.W.).

**maculea** (Haw.)—Scarborough, larvae in seedheads and shoots of  
**Stellaria holostea** (T.W.).

**fraternella** (Dougl.)—Scarborough, larvae in shoots of **Cerastium**  
(T.W.).

**viscariella** (Staint.)—Scarborough about **Melandrium dioicum**, com-  
mon (T.W.).

*tricolorella* (Haw.)—Scarborough, larva among *Stellaria holostea*, very common (S.M.).

**THIOTRICA** Meyrick

*subocellea* (Steph.)—Scarborough, abundant among *Origanum* (T.W.).

**STOMOPTERYX** von Heinemann

*anthyllidella* (Huebn.)—Scarborough, very common (S.M., A.S.).

*vorticella* (Scop.)—Scarborough, rather local (T.W., A.S.).

*taeniolella* (Zell.)—Scarborough, larvae between leaves of *Lotus* (T.W.).

**ANACAMPSIS** Curtis

*populella* (Clerck)—Scarborough (S.M., A.S.).

**ACOMPSIA** Huebner

*cinerella* (Clerck)—Scarborough (T.W., A.S.).

**ANARSIA** Zeller

*spartiella* (Schränk)—Scarborough, larvae in shoots of gorse, etc., rather local (T.W.).

**HYPATIMA** Huebner

*conscriptella* (Huebn.)—Common.

**COSMOPTERIGIDAE**

**BLASTODACNA** Wocke

*hellerella* (Dup.)—Scarborough, very common (T.W., A.S.).

**SPULERIA** Hofmann, E.

*flavicaput* (Haw.)—Very common (S.M.).

**MOMPHA** Huebner

*terminella* (Westw.)—Scarborough, very common on enchanter's nightshade (T.W., J.S.).

*locupletella* (Schiff.)—Scarborough, common on *Epilobium* (T.W.).

*conturbatella* (Huebn.)—Pickering (A.S.).

*propinquella* (Staint.)—Scarborough, very common (T.W.); Flamborough Head (E.H.).

*lacteella* (Steph.)—Scarborough, common (S.M.).

*ochraceella* (Curt)—Scarborough, very common, larvae in roots and stems of *Epilobium* (T.W., J.S.).

*miscella* (Schiff.)—Scarborough, larva in leaves of *Helianthemum* (T.W.).

**BATRACHEDRA** Herrich-Schaeffer

*praeangusta* (Haw.)—Scarborough, very common among willows (T.W.).

**OECOPHORIDAE**

**OECOPHORA** Latreille

*geoffrella* (L.)—Scarborough, very common (S.M., A.S.).

**ESPERIA** Huebner

*sulphurella* (Fabr.)—Common.

**ENDROSIS** Huebner

*sarcitrella* (L.)—Very common in houses.

**AMPHISBATIS** Zeller

*incongruella* (Staint.)—Common on the moors (T.W.).

**BORKHAUSENIA** Huebner

*fuscescens* (Haw.)—Scarborough (T.W.).

*subaquilella* (Staint.)—Scarborough (T.W.).

*minutella* (L.)—Scarborough (S.M.).

*flavifrontella* (Schiff.)—Scarborough (T.W.).

*pseudospretella* (Staint.)—A pest in houses and in insect collections.

**DIURNEA** Haworth

*flagella* (Schiff.)—Very common, variable in colour with a large number of melanic specimens.

*phryganella* (Huebner.)—Scarborough, common (S.M.).

**PLEUROTA** Huebner

*bicostella* (Clerck)—Very common on the moors (T.W., J.S.).

**EXAERETIA** Stainton

*allisella* Staint.—Scarborough (T.W.).

**DEPRESSARIA** Haworth

*apiella* (Huebner.)—Scarborough (S.M.).

*heraciana* (L.)—Abundant on hogweed.

*pulcherrimella* Staint.—Scarborough among *Conopodium majus* (T.W.).

*albipunctella* (Huebner.)—Scarborough, larvae on wild carrot (S.M.).

*ultimella* Staint.—Scarborough (S.M.).

*costosa* Haw.—Scarborough, very common among gorse (S.M., A.S.).

*umbellana* Haw.—Very common among gorse (S.M.).

*liturella* (Schiff.)—Common.

*pallorella* Zell.—Scarborough (S.M.).

*assimilella* (Treit.)—Scarborough among broom (S.M.).

*subpropinquella* Staint.—Scarborough, common among thistles (S.M., A.S.).

*arenella* (Schiff.)—Scarborough among knapweed and thistles (S.M.).

*propinquella* (Treit.)—Scarborough among thistles (T.W.).

*carduella* (Huebner.)—Scarborough among thistles (T.W.).

*angelicella* (Huebner.)—Scarborough, very common among *Angelica sylvestris* (S.M., A.S.).

*rotundella* Dougl.—Pickering, one specimen 20/8/1941 (A.S.).

*ciliella* Staint.—Scarborough, very common among *Angelica* (S.M.).

*applanata* (Fabr.)—Very common.

*alstromeriana* (Clerck)—Scarborough, very common (S.M.).

*ocellana* (Fabr.)—Scarborough, very common among willows (S.M.); Hayburn Wyke, Forge Valley (G.T.P.).

*hypericella* (Huebner.)—Scarborough, larvae in screwed-up tops of *Hypericum* (T.W.).

**SEMIOSCOPIIS** Huebner

*steinkellneriana* (Schiff.)—Scarborough, abundant on hawthorn and mountain ash (T.W.).

*avellanella* (Huebner.)—Scarborough (S.M.).



## ORNEODIDAE

## ORNEODES Latreille

*hexadactyla* (L.)—Scarborough, larvae in flowers of honeysuckle, common (G.B.W., A.S.).

## SESIIDAE

## AEGERIA Fabricius

*tipuliformis* (Clerck)—Occasional.

## DIPSOSPHECIA Spuler

*scopigera* (Scop.)—Scarborough (T.W.) ; Burniston, one specimen at rest on poplar, -/7/1939 (I.P.R.).

## SPHECIA Huebner

*bembeciformis* (Huebner.)—Scarborough, not uncommon where there are poplars.

## SCHRECKENSTEINIIDAE

## PANCALIA Curtis

*leuwenhoekella* (L.)—Pickering, plentiful (A.S.).

## SCHRECKENSTEINIA Huebner

*festaliella* (Huebner.)—Scarborough among bramble and raspberry (T.W.) ; Forge Valley, 7/6/1929 (A.S.).

## GLYPHIPTERIGIDAE

## ANTHOPHILA Haworth

*fabriciana* (L.)—Common wherever nettles occur.

## GLYPHIPTERIX Huebner

*fuscoviridella* (Haw.)—Scarborough, very common (S.M., A.S.).

*thrasonella* (Scop.)—Scarborough, very common (S.M., A.S.).

*cramerella* (Fabr.)—Scarborough, very common (T.W., J.S.) ; very plentiful on the Wolds (A.S.).

*equitella* (Scop.)—Scarborough among *Sedum acre* (T.W.).

*haworthana* (Steph.)—Scarborough, very common in seed-heads of *Eriophorum* (T.W.).

## ELACHISTIDAE

## ELACHISTA Treitschke

*trapeziella* Staint.—Scarborough among *Luzula pilosa* (T.W.).

*cinereopunctella* (Haw.)—Scarborough, very common among *Carex flacca* (T.W.).

*gleichenella* (Fabr.)—Scarborough, larvae plentiful on *Luzula pilosa* (T.W.).

*albifrontella* (Huebner.)—Scarborough, very common (S.M.) ; Flamborough Head (E.H.).

*luticomella* Zell.—Scarborough (T.W.) ; Flamborough Head, larvae on *Dactylis glomerata* (E.H.).

*atricomella* Staint.—Scarborough, about *Dactylis glomerata* (T.W.).

*kilmunella* Staint.—Scarborough among *Carex* (T.W.).

*perplexella* Staint.—Scarborough, larvae in leaves of *Deschampsia caespitosa* (T.W.).

*subnigrella* Dougl.—Scarborough, common (S.M.).

- stabilella** Frey, H.—Scarborough (T.W.).  
**nigrella** (Haw.)—Scarborough, very common (S.M.).  
**bedellella** (Sirc.)—Scarborough, common (T.W.).  
**obscuraella** Staint.—Scarborough, common (S.M.).  
**taeniatella** Staint.—Scarborough, plentiful on **Brachypodium sylvaticum** (T.W.).  
**megerlella** (Huebn.)—Scarborough, very common (S.M.).  
**serricornis** Staint.—Scarborough (T.W.).  
**biatomella** (Staint.)—Scarborough on **Carex flacca** (T.W.).  
**eleochariella** Staint.—Scarborough on **Eriophorum** (T.W.).  
**albidella** von Tengstr.—Scarborough, very common (S.M.).  
**cerusella** (Huebn.)—Scarborough (T.W.), plentiful (A.S.).  
**subocellea** (Steph.)—Scarborough, larvae on leaves of **Brachypodium sylvaticum**, very common (T.W.).  
**triatomea** (Haw.)—Scarborough, common about **Festuca** (T.W.); Flamborough Head (E.H.).  
**rufocinerea** (Haw.)—Abundant among grass.  
**argentella** (Clerck)—Abundant.

## SCYTHRIDAE

## SCYTHRIS Huebner

- senescens** (Staint.)—Scarborough among **Thymus** (T.W.).

## YPONOMEUTIDAE

## CEDESTIS Zeller

- farinatella** (Zell.)—Scarborough, among firs (T.W.), common (A.S.).

## ZELLERIA Stainton

- hepariella** Staint.—Scarborough (T.W.).

## SWAMMERDAMIA Huebner

- combinella** (Huebn.)—Scarborough, very common (S.M.); Pickering and Burniston (A.S.).

- heroldella** Huebn.—Scarborough, very common (S.M.).

- lutarea** (Haw.)—Scarborough (S.M.).

- spiniella** (Huebn.)—Scarborough (S.M.).

- pyrella** (de Vill., C. J.)—Scarborough (S.M.).

## PRAYS Huebner

- curtisellus** (Don.)—Scarborough, very common (S.M.).

## YPONOMEUTA Latreille

- padella** (L.)—Scarborough, common, sometimes abundant at the Mere.

- cognatella** Huebn.—Scarborough, common (S.M.).

## COLEOPHORIDAE

## COLEOPHORA Huebner

- spissicornis** (Haw.)—Scarborough (S.M.).

- albitarsella** Zell.—Scarborough, larvae on ground ivy, etc., (T.W.).

- alcyonipennella** (Koll.)—Scarborough, very common among **Centaurea nigra** (T.W., J.S.).

- paripennella** Zell.—Scarborough on birch (T.W.).

- nigricella** (Steph.)—Common.

- siccifolia* Staint.—Scarborough on whitethorn (T.W.).
- gryphipennella* (Bouché)—Scarborough, larvae in leaves of roses, very common (T.W., J.S.).
- orbitella* Zell.—Scarborough, larvae on birch (T.W.).
- viminetella* Zell.—Scarborough, larvae on willow, very common (T.W.).
- fuscedinella* Zell.—Scarborough, very common (S.M.).
- lutipennella* (Zell.)—Scarborough among oaks (T.W.).
- badiipennella* (Dup.)—Scarborough (S.M.).
- olivaceella* Staint.—Scarborough (T.W.).
- laricella* (Huebn.)—Very common on larch (G.B.W.).
- juncicolella* Staint.—Scarborough, larvae on *Calluna* and *Erica*, common (H.T.S.).
- chalcogrammella* Zell.—Scarborough, larvae on *Cerastium arvense* in May (T.W.) ; Pickering, 21/6/1942 (A.S.).
- lixella* Zell.—Scarborough, larvae on grasses (T.W.).
- anatipennella* (Huebn.)—Scarborough (T.W.).
- pyrrhulipennella* Zell.—Abundant on the moors.
- genistae* Staint.—Larvae on *Genista anglica*, common where this occurs in the Scarborough district (S.M.).
- discordella* Zell.—Scarborough, very common (T.W., J.S.) ; Flamborough Head, larvae on *Lotus* (E.H.).
- albicosta* (Haw.)—Scarborough among gorse (T.W.) ; Pickering, 4/6/1939 (A.S.).
- lineolea* (Haw.)—Scarborough (A.S.).
- troglodytella* (Dup.)—Scarborough, larvae on leaves of *Eupatorium cannabinum*, very common (P.I., J.S.).
- virgaureae* Staint.—Scarborough, larvae on seeds of *Solidago*, very common (T.W., J.S.).
- annulatella* von Tengstr.—Scarborough, very common (S.M.).
- leucapennis* (Haw.)—Scarborough, larvae on seeds of *Luzula* (T.W.).
- caespitiella* Zell.—Abundant wherever *Juncus* grows.

## GRACILLARIIDAE

## LITHOCOLLETIS Huebner

- roboris* Zell.—Scarborough, larvae in large mines in oak leaves (T.W., A.S.).
- harrisella* (L.)—Scarborough, very common among oaks (S.M.).
- heegeriella* Zell.—Scarborough among oaks (T.W.).
- messaniella* Zell.—Scarborough among oaks (S.M.).
- quercifoliella* Zell.—Scarborough, very common (S.M.).
- rajella* (L.)—Scarborough, very common among alders (S.M.).
- corvli* von Nic.—Scarborough, larvae in hazel leaves, very common (S.M.).
- faginella* Zell.—Scarborough among beech (S.M.).
- spinirolella* Zell.—Scarborough, among blackthorn (T.W.).
- ulmifoliella* (Huebn.)—Scarborough among birch, very common (S.M.).

- negrescentella* Log.—Scarborough (T.W.).  
*insignitella* Zell.—Scarborough, common on *Trifolium medium* (T.W.).  
*lautella* Zell.—Scarborough, larvae in oak leaves (T.W.).  
*schreberella* (Fabr.)—Scarborough among elm (T.W.).  
*trifasciella* (Haw.)—Scarborough, among honeysuckle (T.W.).  
*emberizaepennella* (Bouch.)—Scarborough (T.W.).  
*tristrigella* (Haw.)—Scarborough among elm (S.M., A.S.).  
*stettinensis* von Nic.—Scarborough among alder, very common (T.W.).  
*froelichiella* Zell.—Scarborough among alder (T.W.).  
*nicellii* Staint.—Scarborough among hazel (T.W.).  
*klemannella* (Fabr.)—Scarborough (S.M.).  
*viminiella* (Staint.)—Scarborough among willow, very common (S.M.).  
*corylifoliella* (Haw.)—Scarborough among hawthorn (P.I.).  
*muelleriella* Zell.—Scarborough (T.W.).  
*acerifoliella* Zell.—Scarborough among maple, very common (T.W.).

#### ORNIX Treitschke

- guttea* (Haw.)—Very common Scarborough (S.M.).  
*loganella* Staint.—Very common, Scarborough (T.W.).  
*anglicella* Staint.—Very common, Scarborough (S.M.).  
*devoniella* Staint.—Very common, Scarborough (S.M.).  
*torquillella* Zell.—Scarborough (T.W.).  
*scoticella* Staint.—Scarborough (T.W.).

#### GRACILLARIA Haworth

- auroguttella* (Steph.)—Scarborough among *Hypericum* (T.W.).  
*syringella* (Fabr.)—Very common among lilac, ash and privet.  
*sulphurella* (Haw.)—Scarborough (T.W.); Pickering, common (A.S.).  
*tringipennella* Zell.—Scarborough among plantain (T.W.); Burniston (A.S.).  
*elongella* (L.)—Scarborough among alder, very common (S.M.).  
 Mr. A. Smith has two Scarborough specimens which are probably to be referred to *falconipennella* Brown (Proc. S. London Ent. and Nat. Hist. Soc., 1946-47).  
*alchimiella* (Scop.)—Scarborough among oak, very common (P.I., A.S.); Forge Valley, Pickering (A.S.).  
*stigmatella* (Fabr.)—Scarborough among poplars and willows (T.W.).  
*semifascia* Haw.—Scarborough, common on maple.

#### EPERMENIIDAE

#### CATAPLECTICA Walsingham

- fulviguttella* (Zell.)—Scarborough among *Angelica sylvestris* (P.I.).

#### EPERMENIA Huebner

- chaerophyllella* (Goeze)—Scarborough (T.W.).

#### PLUTELLIDAE

#### ORTHOTAELIA Stephens

- sparganella* (Thunb.)—Scarborough, larvae in stems of *Sparganium erectum* (T.W.).

**YPSOLOPHUS** Fabricius

- xylostellus* (L.)—Common among honeysuckle.  
*nemorellus* (L.)—Scarborough among honeysuckle (T.W., A.S.).  
*scabrellus* (L.)—Scarborough, larvae on apple (S.M.).  
*sylvellus* (L.)—Scarborough among oak (S.M.).  
*parenthesellus* (L.)—Scarborough on sallow (T.W.) ; common on the Wolds (A.S.).  
*ustellus* (Clerck)—Scarborough, very common (S.M.).  
*sequellus* (Clerck)—Scarborough (S.M., A.S.).  
*vittellus* (L.)—Scarborough, very common (S.M.).

**PLUTELLA** Schrank

- porrectella* (L.)—Scarborough (S.M., A.S.).  
*maculipennis* (Curt.)—DIAMOND-BACKED MOTH. Common, at times abundant, when it does great damage to cabbages, etc.  
*dalella* Staint.—Scarborough (T.W.).

**SUBEIDOPHASIA** Weber, P.

- annulatella* (Curt.)—Scarborough (T.W.) ; Flamborough Head (E.H.).

**ACROLEPIA** Curtis

- granitella* (Treit.)—Scarborough, larvae in leaves of *Pulicaria dysenterica* (T.W.).

**OCNEROSTOMA** Zeller

- piniariella* Zell.—Scarborough among pines (T.W., A.S.).

**ARGYRESTHIA** Huebner

- brockeëlla* (Huebn.)—Scarborough, very common (S.M., A.S.).  
*goedartella* (L.)—Scarborough, very common (S.M.).  
*pygmaeëlla* (Huebn.)—Scarborough among sallow (T.W., A.S.).  
*sorbiella* (Treit.)—Scarborough (S.M.).  
*cornella* (Fabr.)—Scarborough among apple (S.M.).  
*retinella* Zell.—Scarborough among birch (T.W., A.S.).  
*semifusca* (Haw.)—Scarborough, larvae in ash and sloe (S.M., A.S.).  
*conjugella* Zell.—Scarborough, larvae in fruit of mountain-ash, very common (T.W., J.S., A.S.).  
*spiniella* Zell.—Scarborough, larvae in young stem of mountain-ash (T.W., A.S.).  
*pruniella* (Clerck)—Scarborough (S.M.).  
*curvella* (L.)—Scarborough, very common.  
*albistria* (Haw.)—Scarborough, very common.  
*semitestacella* (Curt.)—Scarborough (S.M., A.S.).

**LYONETIIDAE****OPOSTEGA** Zeller

- crepusculella* Zell.—Scarborough, very common (S.M.).

**LEUCOPTERA** Huebner

- laburnella* (Staint.)—Abundant wherever laburnum grows.  
*spartifoliella* (Huebn.)—Scarborough, common among broom (T.W.).  
*orobi* (Staint.)—Scarborough, larvae in leaves of *Lathyrus tuberosus* (T.W.).

- lotella* (Staint.)—Cloughton Moor, abundant on *Lotus tenuis* (T.W.).  
*scitella* (Zell.)—Scarborough among hawthorn (S.M.).  
**LYONETIA** Huebner  
*clerckella* (L.)—Scarborough, very common (S.M.).  
**TISCHERIA** Zeller  
*complanella* (Huebner.)—Scarborough, larvae in oak leaves, very common.  
*marginella* (Haw.)—Scarborough, larvae in leaves of bramble (S.M.).  
**BUCCULATRIX** Zeller  
*crisatella* (Zell.)—Scarborough, common on yarrow (T.W.).  
*nigricomella* (Zell.)—Scarborough, very common among ox-eye (T.W.).  
*cidarella* (Zell.)—Scarborough among alder (T.W.).  
*crataegi* (Zell.)—Scarborough among hawthorn (S.M.).  
*demaryella* (Staint.)—Scarborough among birch (T.W.).  
**OINOPHILA** Stephens  
*v-flava* (Haw.)—Scarborough, common in wine-vaults (T.W.).

## TINAEIDAE

- TRICHOPHAGA** Ragonot  
*tapetzella* (L.)—Very common.  
**TINEOLA** Herrich-Schaeffer  
*bisselliella* (Humm.)—Abundant, a great pest.  
**TINAEA** Geoffroy  
*fulvimitrella* Sod.—Scarborough (T.W.).  
*arcella* Fabr.—Scarborough, common (T.W.).  
*granella* (L.)—Scarborough (S.M.).  
*cloacella* Haw.—Common.  
*ruvicolella* Staint.—May occur with us as Mr. A. Smith has found it nearer York.  
*fuscipunctella* Haw.—Common.  
*pellionella* (L.)—Common everywhere.  
*pallescentella* Staint.—Common in warehouses.  
*ganomella* Treit.—Very common.  
*semifulvella* Haw.—Flamborough (E.H.) ; Scarborough (T.W., A.S.).  
**OCHSENHEIMERIA** Huebner  
*mediopectinella* (Haw.)—Common.  
**TALEPORIA** Huebner  
*tubulosa* (Retz.)—Scarborough, abundant on sycamore trunks (T.W.).

## LAMPRONIIDAE

- PHYLLOPORIA** von Heinemann  
*bistrigella* (Haw.)—Scarborough, larvae in leaves of birch, very common (T.W., A.S.).  
**INCURVARIA** Haworth  
*masculella* (Fabr.)—Scarborough, very common.  
**LAMPRONIA** Stephens  
*capitella* (Clerck)—Scarborough (S.M.).



**oehlmanniella** (Treit.)—Scarborough (T.W.).

**praelatella** (Schiff.)—Scarborough (T.W.); Forge Valley, 21/6/1936 (A.S.).

**luzella** (Huebner.)—Scarborough (T.W.).

**rubella** (Bjerk.)—Scarborough, very common (S.M.); Forge Valley (A.S.).

#### ADELIDAE

**NEMOPHORA** Hofmannsegg

**cupriacella** (Huebner.)—Scarborough about scabious (T.W.).

**degeerella** (L.)—Scarborough (A.S.).

**ADELA** Latreille

**reaumurella** (L.)—Very common and widely distributed.

**croesella** (Scop.)—Scarborough (T.W.).

**rufimitrella** (Scop.)—Scarborough (T.W.).

**fibulella** (Schiff.)—Scarborough on germander speedwell (T.W.); common on the Wolds (A.S.).

**NEMATOPOGON** Zeller

**swammerdammella** (L.)—Scarborough, very common (S.M., A.S.).

**panzeriella** (Fabr.)—Scarborough (T.W.).

**pilella** (Fabr.)—Scarborough (T.W.).

**metaxella** (Huebner.)—Scarborough on marshy ground (S.M.).

#### HELIOZELIDAE

**HELIOZELA** Herrich-Schaeffer

**sericiella** (Haw.)—Scarborough, very common (S.M., A.S.).

**resplendella** (Staint.)—Scarborough, larvae inside alder leaves, very common (T.W.).

**ANTISPILA** Huebner

**pfeifferella** (Huebner.)—Scarborough, larvae in leaves of dogwood (T.W.).

**treitschkiella** (Fisch. von Roesl.)—Scarborough, larvae in leaves of dogwood (T.A.).

#### STIGMELLIDAE

**STIGMELLA** Schrank

**pomella** (Vaugh.)—Scarborough on crab-apple (T.W.).

**pygmaella** (Haw.)—Scarborough among hawthorn, very common (T.W.).

**atricapitella** (Haw.)—Scarborough, larvae in galleries in oak leaves, very common (S.M.).

**ruficapitella** (Haw.)—Common and generally distributed.

**anomalella** (Goeze)—Scarborough among roses, very common (T.W.).

**oxyacanthella** (Staint.)—Scarborough, very common (S.M.).

**regiella** (Herr.-Schaeff.)—Scarborough (T.W.).

**aurella** (Fabr.)—Scarborough among bramble, very common (S.M.).

**hybnerella** (Huebner.)—Scarborough (T.W.).

**alnetella** (Staint.)—Scarborough among alders (T.W.).

**microtheriella** (Staint.)—Scarborough among hazels, very common (T.W.).



- plagicolella* (Staint.)—Scarborough, very common (J.S.).  
*ignobilella* (Staint.)—Scarborough among hawthorn (T.W.).  
*glutinosae* (Staint.)—Scarborough, larvae in alder leaves (T.W.).  
*luteella* (Staint.)—Scarborough, among birch (T.W.).  
*argentipedella* (Zell.)—Scarborough, very common (T.W.).  
*basalella* (Herr.-Schaeff.)—Scarborough, very common (S.M.).  
*malella* (Staint.)—Scarborough on crab-apple (R.H.).  
*angulifasciella* (Staint.)—Scarborough among wild-rose, common (T.W.).  
*arcuatella* (Herr.-Schaeff.)—Scarborough among strawberry, common (T.W.).  
*myrtillella* (Staint.)—Scarborough among bilberry, very common (T.W.).  
*salicis* (Staint.)—Scarborough among willow, very common (T.W.).  
*floslactella* (Haw.)—Scarborough among hazel, very common (T.W.).  
*lapponica* (Wocke)—Scarborough, larvae in mines in birch leaves (T.W.).  
*septembrella* (Staint.)—Scarborough among *Hypericum* (T.W.).  
*catharticella* (Staint.)—Scarborough among buckthorn (T.W.).  
*weaveri* (Staint.)—Scarborough about whortleberry, common (T.W.).  
*trimaculella* (Haw.)—Scarborough (T.W.).  
*subbimaculella* (Haw.)—Scarborough among oak (T.W.).  
*cryptella* (Staint.)—Scarborough among bird's-foot trefoil (T.W.).  
*pulverosella* (Staint.)—Scarborough among crab-apple, common (T.W.).

## TRIFURCULA Zeller

- immundella* (Zell.)—Scarborough among broom, common (T.W.).

## SCOLIAULA Meyrick

- quadrinaculella* (Boh.)—Scarborough among alder in July (T.W.).

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| Bordered         |          | 159               |     | Dunbar            | 153 |
| Beauty           | 167      | Clouded Border    |     | Dusky Brocade     | 154 |
| Gothic           | 159      | 166               |     | Lemon Sallow      |     |
| Pug              | 161      | Bordered          |     | 157               |     |
| White            | 165      | Brindle           | 154 |                   |     |
| Brick            | 157      | Brindle           | 154 | Early             | 166 |
| Bright-line      |          | Buff              | 152 | Grey              | 157 |
| Brown-eye        | 159      | Drab              | 158 | Thorn             | 167 |
| Brimstone        | 165, 172 | Magpie            | 166 | Tooth-striped     |     |
| Brindled         | 157      | Yellow            | 172 | 161               |     |
| Beauty           | 166      | Comma             | 171 | Ear               | 154 |
| Green            | 158      | Common Blue       | 171 | Emperor           | 169 |
| Pug              | 162      | Carpet            | 162 | Engrailed         | 165 |
| Broad-barred     |          | Heath             | 165 | Eyed Hawk         | 168 |
| White            | 158      | Pug               | 161 |                   |     |
| -bordered        |          | Quaker            | 158 | Fanfoot           | 159 |
| Yellow           |          | Rustic            | 154 | Feathered Gothic  |     |
| Underwing        | 156      | Wainscot          | 158 | 158               |     |
| Broom            | 159      | Wave              | 166 | Ranunculus        | 158 |
| Brown Argus      | 171      | White Wave        | 166 | Thorn             | 187 |
| -line Bright-Eye |          | Confused          | 154 | Fern              | 162 |
| 158              |          | Convolvulus       |     | Figure of Eight   |     |
| Rustic           | 153      | Hawk              | 169 | 160               |     |
| Silverline       | 166      | Coronet           | 153 | Flame             | 156 |
| -spot Pinion     | 156      | Coxcomb Promi-    |     | Carpet            | 164 |
| Brussels Lace    | 165      | nent              | 169 | Shoulder          | 155 |
| Buff Arches      | 167      | Cream Wave        | 160 | Flounced Chestnut |     |
| Ermine           | 152      | Crimson Speckled  |     | 156               |     |
| Tip              | 169      | 151               |     | Rustic            | 153 |

Forester	175	Holly Blue	171	Magpie	166
Fourspotted		Hummingbird		White	170
Footman	151	Hawk	168	Mallow	164
Fox	175			Map-winged Swift	151
Foxglove Pug	161	Ingrailed Clay	156	Marbled Beauty	153
Frosted Green	168	Iron Prominent	169	Brown	169
Orange	153			Carpet	163
		July Highflyer	163	Coronet	158
Galium Carpet	162	Knot Grass	153	Minor	154
Garden Carpet	164	Larch Pug	161	March	165
Dart	154	Large Elephant		Marsh Pug	162
Tiger	152	Hawk	168	May Highflyer	163
Gatekeeper	170	Emerald	161	Meadow Brown	170
Ghost Swift	151	Heath	170	Merveille du Jour	157
Glaucous Shears	158	Marbled Tortrix	152	Middle-barred	154
Goat	176	Ranunculus	157	Minor	154
Gold Spangle	159	Skipper	172	Miller	152
Spot	160	Tortoiseshell	171	Minor Shoulder-	158
Swift	151	Wainscot	153	knot	
Golden Plusia	160	White	172	Mother Shipton	159
-red Brindle	157	Yellow		Mottled Beauty	165
Rod Pug	162	Underwing	156	Grey	164
Gothic	156	Latticed Heath	165	Rustic	153
Grass Emerald	161	Lead Belle	164	Umber	166
Rivulet	163	-coloured Drab	158	Mouse	153
Wave	166	-coloured Pug	162	Mullein	157
Grayling	170	Least Black		Muslin	152
Great Brocade	156	Arches	152	Footman	151
Green Arches	156	Lesser Broad-			
Brindled		border	156	Narrow-bordered	
Crescent	157	Cream Wave	161	Five-spot	
Carpet	164	Lutestring	168	Burnet	175
Pug Hairstreak	172	Satin	167	-winged Pug	162
Silver-lines	152	Swallow		Neglected	155
-veined White	172	Prominent	169	Netted Pug	161
Grey Arches	159	Yellow		Northern Spinach	162
Birch	165	Underwing	156	November	164
Chi	157	Light Arches	154	Nut-tree Tussock	153
Dagger	153	Emerald	167		
Mountain		Knot Grass	153		
Carpet	163	Orange Under-	165		
Pine Carpet	162	wing			
Pug	161	Lime-speck Pug	161		
Scalloped Bar	166	Ling Pug	161	Oak Beauty	166
		Lilac Beauty	167	Eggar	175
Haworth's Minor	154	Little Emerald	161	-tree Pug	162
Heart & Club	155	Lunar Marbled-		Ochrous Pug	162
& Dart	155	brown	168	Old Lady	153
Heath Rustic	155	Thorn	167	Oleander Hawk	168
Hebrew		Underwing	156		
Character	158	Lychnis	158	Orange Sallow	156
High Brown		Lyme Grass	153	Swift	151
Fritillary	170			Tip	172
				Underwing	165

Painted Lady 171	Round-winged	Small Angle-	Striped Hawk 168
Pale Brindled	Footman 151	shades 154	Twin-spot
Beauty 166	Wave 166	Argent & Sable	Carpet 164
Mottled	Ruby Tiger 151	162	Wainscot 158
Willow 153	Ruddy Highflyer	Autumn Carpet	Suspected 157
Prominent 169	163	164	Swallowtail 166
Shouldered	Rustic 153	Black Arches	Swallow
Brocade 159	Shoulder-knot	152	Prominent 169
Tussock 160	154	Blood Vein 161	Sword Grass 157
Peach Blossom 167	Sallow 157	Blue 171	
Peacock 171	Kitten 169	Brindled	Tawny-barred
Pearl-bordered	Sandy Carpet 163	Beauty 166	Angle 165
Fritillary 170	Satellite 157	Copper 172	Shears 158
Pearly Underwing	Satyr Pug 161	Clouded	Speckled Pug
155	Scallop Shell 162	Brindle 154	161
Pebble Hook-tip	Scalloped Hazel	Chocolate Tip	Wave . 161
173	167	169	Treble-bar 162
Prominent 169	Hook-tip 173	Dotted Buff 154	-lines 154
Peppered 166	Oak 167	Eggar 175	Triple-spotted
Phoenix 162	Scarce Bordered	Elephant Hawk	Pug 162
Pine Beauty 158	Straw 154	168	True Lovers
Carpet 162	Footman 151	Engraved 165	Knot 155
Pink-barred	Silver-Y 160	Fanfoot 159	Turnip 155
Sallow 157	Umber 166	Heath 170	Twin-spot Carpet
Pinion-streaked	Scorched Carpet	Pearl-bordered	164
Snout 159	166	Fritillary 170	Twin-spotted
Plain Clay 155	Wing 167	Phoenix 163	Quaker 158
Golden-Y 160	September Thorn	Purple-barred	Union Rustic 154
Poplar Hawk 169	167	160	
Kitten 169	Seraphim 161	Quaker 158	Vapourer 160
Lutestring 167	Setaceous Hebrew	Rivulet 163	V-Moth 165
Powdered Quaker	Character 155	Skipper 172	V-Pug 161
158	Shaded Broad-bar	Square-spot 156	
Privet Hawk 168	164	Tortoiseshell 153	Wall 170
Purple Bar 162	Pug 162	Wainscot 153	Water Carpet 163
Clay 156	Shark 157	White 172	Waved Umber 165
Puss 169	Shears 158	White Wave 164	Wavy Carpet 164
	Shoulder-stripe 163	Yellow Under-	Welsh Wave 164
Queen of Spain	-striped	wing 153	White Ermine 152
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Rannoch Looper	165	164	streak 172
165	Single-dotted	Smoky Wainscot	-line Dart 154
Red Admiral 171	Wave 160	158	-line Snout 159
Carpet 164	Silver-ground	Wave 160	-marked 156
Chestnut 156	Carpet 164	Snout 159	-pinioned
Green Carpet	-spotted	Speckled Wood	Spotted 166
163	Skipper 172	169	satin 160
Line Quaker 157	-striped Hawk	Spectacle 160	-spotted Pug 161
-necked	168	Spinach 162	Winter 164
Footman 151	-studded Blue	Sprawler 156	Wood Tiger 152
Sword-grass 157	171	Spring Usher 165	Wormwood Pug
Underwing 159	-washed	Spurge Hawk 168	161
Reddish Light	Fritillary 170	Square-spot Dart	Yellow-barred
Arches 154	Six-spot Burnet	154	Brindle 161
Riband Wave 160	175	Rustic 155	-horned 168
Ringlet 170	-striped Rustic	Square-spotted	-line Quaker 157
Rivulet 163	155	Clay 155	-ringed Carpet
Rosy Footman 151	Slender Brindle	Streak 162	163
Minor 154	154	Streamer 163	Shell 163
Rustic 154	Pug 162		-tail 160



## Order COLEOPTERA — BEETLES

G. B. Walsh

Robert Lawson, the first Scarborough coleopterist, was contemporaneous with T. Wilkinson, the well-known lepidopterist and was said by E. C. Rye to be the first beetle-collector in Europe. Some years after he died, the study of local beetles, especially of the water-beetles, was taken up, at the beginning of the century, by the Rev. W. C. Hey, West Ayton, and at Scarborough by E. C. Horrell and W. Pearson. The work was then continued at Scarborough by A. E. Winter and G. B. Walsh; at Whitby by H. Britten; and at Robin Hood's Bay by J. M. Brown. There are numerous records by visiting coleopterists, so that we have a good idea of the distribution of the Coleoptera in the north and central part of our area, though much still remains to be done in the south.

The district is a rich one for beetles, and lacks only high mountains, a river estuary and coast sand-dunes. Areas of special interest are the coast and moors, both of which have a characteristic beetle fauna. The subject of distribution of moorland insects has been discussed in the introduction to the Lepidoptera; among the Coleoptera, too, most moorland species are fairly common at least, and practically all the species are widely distributed.

There is a very interesting area of wind-blown sand between Flixton and Ganton. On it occur some species which we usually associate with the coast, notably **Broscus cephalotes** and **Notoxus monoceros**.

The district contains beetles of extremely localised distribution; e.g., **Chaetocnema conducta**, taken on two widely separated occasions in Forge Valley, its only known British habitat; **Mesites tardii**, a beetle of Lusitanian origin, occurs only at Hayburn Wyke and in one restricted locality near Robin Hood's Bay, the only known Yorkshire haunts; **Anoplus roboris** used to occur only on a single alder in Hayburn Wyke, but the insects were washed out to sea in a summer flood; and just outside our area occurs **Bledius dissimilis**, in a sandy layer some distance up the cliffs in a short stretch just south of Bridlington, again the only known British locality.

As among the Lepidoptera, it should be noted that in Lawson's records, "Scarborough" refers to the district within reach of the town. One feels, too, that the term "common" has, in some cases at any rate, been applied possibly to species which were common for only a limited time.

There are, of course, fundamental differences in the structure of the wings of the Lepidoptera and of the Coleoptera. In the former the four wings are almost always covered with highly pigmented scales which give



them their colouring and are more or less capable of degrees of pigmentation ; in the latter the forewings are almost always modified to form hard chitinous coverings (elytra) which are in various degrees closely adpressed to the sides of the abdomen and protect the true organs of flight beneath, which are neither scaled nor horny.

These elytra are heavily pigmented within and have a degree of colour stability which is not readily affected by external conditions. Just as in a good many moths there are a few beetles which exhibit degrees of increased pigmentation (melanism or melanochroism) which it seems difficult to explain in any way in terms of different external conditions. *Nebria livida* for instance, which lives at the base of clay cliffs, is black with yellow margins, but very occasionally is completely dark or, on the other hand, completely yellow ; these are almost certainly mutations which it is unnecessary to explain in general terms. We are on different ground, however, with *Orsodacne cerasi* which occurs in small numbers on hogweed flowers in Forge Valley ; this has a black form (*glabrata*) which is usually a somewhat undersized male but may be a female of normal size. Similarly on moors there is the very common " heather beetle " (*Lochmaea suturalis*) which at times is so abundant as to be a pest ; it also has a black form (*nigrita*). On the other hand we have beetles with diminished pigmentation where species which are normally black become dark reddish, a condition which the late W. E. Sharp paradoxically termed " a condition of permanent immaturity ", examples are *Aphodius ater* common everywhere and *Nebria gyllenhali* which is black in the shingle beds of the Derwent, but reddish on the dry uplands of Langdale Rigg. One is naturally tempted to explain this in terms of altitude only to be met by the exactly opposite case where *Calathus melanocephalus* with a red thorax at low altitudes has a black one above the 2000 ft. line.

Up to the present, then, we have no generally accepted theory which will explain these different forms in terms of external conditions—a state of affairs which, while disappointing in a way, is nevertheless decidedly stimulating to hypothesis and discussion.

### Winter flight.

A good many beetles are in the larval state during late July, August and September and when they emerge in late September or in October they very quickly search for winter quarters where they may stay until the following spring or summer. If, however, there are heavy floods in the winter they may be washed out of these hibernacula and so be swept down-stream in flood-refuse. Moreover, many species are in very incomplete hibernation, and while they stay torpid in very cold weather, they emerge when the temperature rises a little. This particularly applies to a number of small carrion-feeding beetles which, together with certain flies of similar food habits, are on the wing on the warmer days searching for their food. The larger ones seem to remain torpid all through the cold weather, even *Necrophorus vespilloides* (= *mortuorum*) which can be found in rotten fungi late into November.

### Is our beetle fauna stable?

An ever-interesting problem in the study of field natural history is the question of the stability of a fauna or flora. It is probably easier to give an answer in such cases as the flowering plants and the birds, and some information on the matter can be found in the introductions to these sections. In the case of the beetles, it is more difficult to say, for the problem is complicated by the introduction of new methods of collecting, new methods of diagnosis of species and even by the predilections of collectors with favourite haunts, etc. There are at least three aspects of the subject to be studied :—

1. **GEOLOGICAL HISTORY.** Our knowledge of the local Coleoptera extends back for only about a century, far too short a time to include any major geological changes. It is probably on the coast that these are most obvious, where we have isolated colonies of species which prefer a special type of habitat :—

- a. **Nebria livida** prefers crevices at the base of clay cliffs, and occurs at Scarborough, Gristhorpe Bay and Filey.
- b. **Micralymma marinum**, **Aepus marinus**, **Aepopsis robinii** which live between layers of shaly rock, exposed at low tide ; these may be found at Robin Hood's Bay, Scarborough and Gristhorpe Bay.

These species do not fly and their occurrence in these "pockets" is best explained on the theory that in the post-glacial period the land extended far into the North Sea and there was thus a continuity of suitable natural habitats and thus a continuity of distribution; as the land sank, many of the habitats became untenable and the beetles are thus left in what are still suitable localities.

2. **THE INFLUENCE OF MAN.** Until quite recent times there has been little interference by man with the general character of the countryside. In the immediate neighbourhood of Scarborough, there have been great changes along the coast and, owing to the building of the Marine Drive and the construction of the bungalows, etc., in the North Bay, the haunts of **Nebria livida** which used to occur there have been destroyed; but the rocks are unchanged and **Mycralymma**, etc., still occurs in the crevices in the North Bay between the horizontal strata.

There are two interesting examples of discontinuous distribution in the occurrence of **Anoplus roboris** at Hayburn Wyke and of **Mesites tardii** at Hayburn Wyke and Robin Hood's Bay. When Yorkshire was largely covered with forest land these beetles were probably more widespread than they are to-day but with the destruction of most of the suitable timber, the haunts of the beetles were destroyed and we are thus left with these isolated surviving colonies. The restriction of a local strain of beetles to a single tree, as in the case of **Anoplus roboris** (v.s.), is by no means an isolated phenomenon and is perhaps to be explained on the hypothesis that this race has severely restricted physiological idiosyncrasies which were satisfied by this one particular tree.

The most profound changes in the district are associated with the moorland. The surface covering is being broken up, and the land is being drained and stripped of its heather covering, so that "Blackamoor" as known and loved by we older naturalists is rapidly disappearing. Afforestation, too, is greatly altering the moorland, replacing the callunetum with dense forests of conifers, mainly of exotic species such as Sitka Spruce and Japanese Larch. As to the probable results of these changes, one can generalise only by seeing what has happened at Ringing Keld Bog and similar localities: beetles which depend for their very existence on certain special types of habitat, such as peat bogs, peaty pools, sphagnum and the special moorland plants are almost completely wiped out and survive only in a few specially favoured localities and in Nature Reserves such as that on Slipho Moor. Of course, beetles which depend upon native conifers will increase in numbers and we can already see this in the repeated occurrence of such beetles as *Asemum striatum*, *Pissodes pini*, *P. castaneus*. It will be interesting to note, too, whether insects strictly associated with the foreign conifers ever make their appearance in the district and whether any native beetles ever adopt these new plants as their normal pabulum.

3. CHANGE OF CLIMATE. This would seem to be the most interesting of all the factors which can change the beetle fauna and the most difficult to claim as an undoubted cause of such change. Observations of such global changes as the diminution in size and even disappearance of many glaciers in Switzerland, the U.S.A. and Iceland, and the regression of the North Atlantic ice barrier seem to show that there is a slow but sure amelioration of our climate despite the opposing evidence that might seem to be offered by the bitter winter of 1946-7 and the very wet and cold summer of 1954. If this change is taking place, one would expect to see the gradual disappearance of the northern elements in our fauna and flora and the gradual spread of the southern elements in part at least. It is very difficult to prove that a species has entirely disappeared but much easier to recognise the advent of a new one. Such a case is almost certainly that of *Hygrobia hermanni* which is gradually spreading northwards in Yorkshire and made its first local appearance at Throxenby Mere in 1931.

The following abbreviations are used :—

J.H.B.—J. H. Bailey	W.P.—W. Pearson
M.D.B.—M. D. Barnes	H.P.—H. Pollard
E.G.B.—E. G. Bayford	C.M.R.—C. M. Rich
W.K.B.—W. K. Bissill	A.M.R.—A. M. Robertson
H.B.—H. Britten fil.	S.R.—S. Rowntree
J.M.B.—J. M. Brown	C.W.R.—C. W. Russell
H.J.B.—H. J. Burkill	W.J.S.—W. J. Sanders
W.M.C.—W. M. Crawford	W.E.S.—W. E. Sharp
H.J.F.—H. J. Flint	J.W.S.—J. W. Stanforth
W.J.F.—W. J. Fordham	T.S.—T. Stainforth
W.W.F.—W. W. Fowler	C.E.S.—C. E. Stott
R.J.F.—R. J. Fryer	A.H.H.S.—A. H. H. Stow
E.F.G.—E. F. Gilmour	R.A.T.—R. A. Taylor
W.H.—W. Hey	M.L.T.—M. L. Thompson
W.C.H.—W. C. Hey	J.J.W.—J. J. Walker
W.D.H.—W. D. Hincks	E.A.W.—E. A. Wallis
E.C.H.—E. C. Horrell	G.B.W.—G. B. Walsh
H.C.H.—H. C. Horrell	J. W.—J. Walton
R.S.J.—R. S. Johnson	T.W.—T. Wilkinson
R.R.U.K.—R. R. U. Kaufman	A.E.W.—A. E. Winter
R.L.—R. Lawson	T.V.W.—T. V. Wollaston
K.M.—K. Middleton	E.B.W.—E. B. Wigglesworth
H.O.—H. Ostheide	G.A.W.—G. A. Wright
E.J.P.—E. J. Pearce	

## CARABIDAE

### CICINDELA Linnaeus

**campestris** L.—Common and widely distributed in suitable places on the moors; local on the coast.

ab. **connata** Heer—Rare; Goathland (C.M.R.).

ab. **conjuncta** D. Torre—Not uncommon with the type at Goathland (R.S.J.).

ab. **funebri** Sturm—Goathland (H.B.).

### CARABUS Linnaeus

**monilis** Fabr.—Fairly common.

[**arvensis** Herbst] s. **silvaticus** Dej.—Local on the moors.

**nemoralis** Muell., O. F.—Common.

[**glabratus** Payk.] var. **lapponicus** Born—Rare; Langdale End (W.P.); Cross Cliff (S.R.).

[**problematicus** Herbst] s. **gallicus** Géhin—Common.

**nitens** L.—Common on the moors; smaller and darker than the south-country form - f. **alticola** Walsh.

[**violaceus** L.] var. **sollicitans** Hart.—Common.

### CYCHRUS Fabricius

[**caraboides** L.] var. **rostratus** (L.)—Local.

### LEISTUS Froelich

**spinibarbis** (Fabr.)—Uncommon; Langdale End (E.C.H.).

*fulvibarbis* Dej.—Generally distributed.

*terminatus* (Hellw.)—Generally distributed.

*ferrugineus* (L.)—Generally distributed.

#### **NEBRĪA** Latreille

*brevicollis* (Fabr.)—Probably common, but often confounded with *N. salina*.

*salina* Fairm. & Lab.—Common.

*gyllenhaïi* (Schoenh.)—Common under wet shingle by running streams.

var. *rufescens* (Stroem, H.)—High Langdale (A.M.R.); a reddish upland form.

*livida* (L.)—At the foot of clay cliffs, now less common; Scalby Beck Scarborough; Filey; under rejectamenta on the beach Grinstead Bay, 3/7/48 (Y.N.U. Excn.). A pale specimen and one almost black taken in Scarborough North Bay (W.P.).

#### **NOTIOPHILUS** Duméril

*aquaticus* (L.)—Generally distributed.

*hypocritus* Putz.—Local on the moors.

*palustris* (Duft.)—Fairly common.

*substriatus* Wat., G. R.—Somewhat uncommon.

*biguttatus* (Fabr.)—Very common.

#### **ELAPHRUS** Fabricius

*cupreus* Duft.—Generally distributed.

*riparius* (L.)—Generally distributed.

#### **LORICERA** Latreille

*pilicornis* (Fabr.)—Common.

#### **CLIVINA** Latreille

*fossor* (L.)—Common and generally distributed.

*collaris* (Herbst)—Fairly common in R. Derwent flood-refuse (G.B.W.); Scarborough (T.W.); Scalby Beck (E.C.H.).

#### **DYSCHIRIUS** Panzer

*globosus* (Herbst)—Common, especially on the moors.

#### **BROSCUS** Panzer

*cephalotes* (L.)—Scalby Mills, Flixton sand-pits (G.B.W.).

#### **MISCODERA** Eschscholtz

*arctica* (Payk.)—On the moors under stones, peat, etc., not common.

#### **ASAPHIDION** Des Gozis

*flavipes* (L.)—Uncommon; Forge Valley, Silpho Moor (E.C.H.).

#### **BEMBIDION** Latreille

*litorale* (Ol.)—Forge Valley (W.C.H., E.C.H.).

*nigricorne* Gyll.—Common under felted algae on the moors, especially in the late summer.

*lampros* (Herbst)—Uncommon.

s. *properans* Steph.—Scarborough (C.E.S.).

var. *coeruleotinctum* Reitt.—Cloughton (E.C.H.).

*dentellum* (Thunb.)—Forge Valley, Langdale End (E.C.H.).

*tibiale* (Duft.)—Common.

var. *redtenbacheri* Dan., K.—Fairly common.

*atrocoeruleum* Steph.—Common.

- monticola** Sturm—Local; Forge Valley, Langdale End (E.C.H.).  
**nitidulum** (Marsham)—Fairly common.  
**stephensii** Crotch—Forge Valley, small form (E.C.H.); Robin Hood's Bay (W.J.F.).  
**rupestre** (L.)—Local; Scarborough (W.K.B.); Thornton-le-Dale (G.B.W.).  
**maritimum** Steph.—Local; Scarborough, Robin Hood's Bay (W.J.F.).  
**ustulatum** (L.)—Common and generally distributed.  
**femoratum** Sturm—Scarborough, Ellerburn (G.B.W.).  
 [andreae (Fabr.)] var. **bualei** du Val—Filey, Gristhorpe, in great numbers on a sunny day in May (W.C.H.); Thornton-le-Dale, etc. (E.C.H.).  
**saxatile** Gyll.—Not uncommon.  
**testaceum** (Duft.)—Forge Valley (E.C.H.).  
**decorum** (Panz.)—Not uncommon.  
 [genei Kuest.] var. **illigeri** Net.—Filey (W.J.F.); Cornelian Bay (G.B.W.).  
**gilvipes** Sturm—Widely distributed.  
**quadrimaculatum** (L.)—Uncommon but widely distributed.  
**obtusum** Serv.—Widely distributed.  
**harpaloides** Serv.—Locally common.  
**biguttatum** (Fabr.)—Widely distributed.  
**aeneum** Germ.—Scarborough (W.K.B.); Hackness (E.C.H.).  
**guttula** (Fabr.)—Common.  
**lunulatum** (Geoffr. in Fourcr.)—Forge Valley (E.C.H.).  
**unicolor** Chaud.—Widely distributed, common on the moors.
- AEPOPSIS** Jeannel  
**robinii** (Lab.)—Common under slabs of rock at Robin Hood's Bay (T.S. and G.B.W.).
- AEPUS** Samouelle  
**marinus** (Stroem, H.)—Ravenscar, Gristhorpe (T.S. and G.B.W.); Scarborough (G.B.W.).
- TRECHUS** Schellenberg  
**secalis** (Payk.)—One specimen in flood-refuse, Scalby Beck (T.S.).  
**quadristriatus** (Schr.)—Common.  
**obtusum** Er.—Common.  
**rubens** (Fabr.)—Three specimens in flood-refuse, Scalby Beck (T.S.).  
**fulvus** Dej.—Flood-refuse, Scalby Beck (T.S.).
- LASIOTRECHUS** Ganglbauer  
**discus** (Fabr.)—One specimen in flood-refuse, Scalby Beck (T.S.); West Ayton (A.M.R.).
- TRECHOBLEMUS** Ganglbauer  
**micros** (Herbst)—With **Trechus rubens** (T.S.); common in flood-refuse, Sherburn (G.B.W.).
- PATROBUS** Stephens  
**assimilis** Chaud.—Not common, but widely distributed. Filey, Silpho Moor (E.C.H.); Staintondale (W.J.F.); Goathland (T.S.).  
**atorufus** (Stroem, H.)—Fairly common and widely distributed.



**PANAGAEUS** Latreille

A specimen belonging to this genus was taken in flood-refuse in Scalby Beck, but the species was not determined (R.L.).

**CHLAENIUS** Samouelle

**nigricornis** (Fabr.)—Scarborough (R.L.).

**vestitus** (Payk.)—Scarborough (R.L.); Scalby Beck in flood-refuse (T.S.).

**BADISTER** Schellenberg

**bipustulatus** (Fabr.)—Not a common species, but widely distributed.

**sodalis** (Duft.)—Rare; Forge Valley in moss under stones (W.C.H.).

**LICINUS** Latreille

**punctulatus** (Fabr.)—Rare; Scarborough district (W.C.H.).

**depressus** (Payk.)—Rare; Flamborough (T.S.); Langdale Rigg

**HARPALUS** Latreille

(G.B.W.).

**S. HARPALUS** s.s.

**aeneus** (Fabr.)—Very common and very variable in colour.

**latus** (L.)—Common and generally distributed.

**rubripes** (Duft.)—Scarborough (R.L.).

var. **sobrinus** Dej.—Scarborough (R.L.).

**tardus** (Panz.)—Forge Valley (A.M.R.).

**S. OPHONUS** Stephens

**diffinis** Dej.—West Ayton (A.M.R.).

**puncticollis** (Payk.)—Filey on blossom of knapweed in seed, Aug., 1878 (W.W.F.); Scarborough (E.G.B.).

**seladon** Schaub.—East Ayton (G.B.W.).

**schaubergerianus** Puel—Local but widely distributed; Pickering, Forge Valley, Staxton, Beast Cliff, etc.

**S. PSEUDOPHONUS** Motschulsky

**rufipes** (De G.)—Very common.

**ACUPALPUS** Latreille

**dorsalis** (Fabr.)—Wykeham (A.M.R.).

**BRADYCELLUS** Erichson

**ruficollis** (Steph.)—Common.

**sharpi** Joy—Filey, Scarborough, Forge Valley (E.C.H.).

**verbasci** (Duft.)—Scarborough (W.K.B.); Gristhorpe (W.J.F.).

**harpalinus** (Serv.)—West Ayton (W.C.H.); Cloughton (E.C.H.); Ravenscar (W.J.F.).

**TRICHOCELLUS** Ganglbauer

**cognatus** (Gyll.)—Locally common, especially on the moors.

**placidus** (Gyll.)—Locally common, especially in damp places.

**DICHEIROTRICHUS** du Val

**gustavii** Crotch—Recorded by E.C.H. from Raincliffe Wood, but this seems a strange locality for this salt-marsh species.

**ANISODACTYLUS** Dejean

**binotatus** (Fabr.)—Scarborough (W.K.B.); Forge Valley (A.M.R.).

**nemorivagus** (Duft.) var. **atricornis** Steph.—Scarborough (W.K.B.).

**AMARA** Samouelle

**plebeja** (Gyll.)—Fairly common; Scarborough (W.K.B.); Yedingham (G.B.W.); Raincliffe Wood, Filey, Seamer Moor (E.C.H.).



*similata* (Gyll.)—"North Riding" (E.B.W.).

*ovata* (Fabr.)—Fairly common.

*communis* (Panz.)—Well distributed but not common; Scarborough, Forge Valley (W.C.H.); Raincliffe Wood (E.C.H.); Flamborough (T.S.).

*vulgaris* (L.)—Rare; Hutton Buscel Moor (W.C.H.).

*curta* Dej.—Rare; Yedingham flood-refuse (E.F.G.).

*aenea* (De G.)—Generally distributed.

*spretata* Dej.—Hutton Buscel Moor; one specimen by shaking moss among heather in a sandy spot (W.C.H.); M. L. Thompson refers this to *famelica*.

*eurynota* (Panz.)—Uncommon; Hutton Buscel Moor (W.C.H.); melanic form Bempton (E.C.H.).

*familiaris* (Duft.)—Generally distributed.

*tibialis* (Payk.)—Uncommon; Scarborough (W.K.B.).

*bifrons* (Gyll.)—Common in R. Derwent flood-refuse (W.C.H.); Forge Valley (E.C.H.).

*praetermissa* (Sahlb., C. R.)—Uncommon; Ayton Quarries (W.K.B.).

*apricaria* (Payk.)—Generally distributed.

*fulva* (De G.)—Local; Scarborough (R.L.); Flixton sand-pits (G.B.W.).

*consularis* (Duft.)—Local; Seamer (W.C.H.).

*aulica* (Panz.)—Common.

*convexiuscula* (Marsham)—Local; Robin Hood's Bay, one under stone at mouth of Stoup Beck (W.J.F.); Scarborough Mere (W.D.H.).

## STOMIS Schellenberg

*pumicatus* (Panz.)—Fairly common and widely distributed.

## FERONIA Latreille

*lepida* (Leske)—Not common, but widely distributed on the moors. Sawdon Moor (W.C.H.); Langdale Rigg (G.B.W.); Robin Hood's Bay (T.S.), etc.

*cuprea* (L.)—Fairly common.

*caerulescens* (L.)—Scarborough (E.C.H.).

*macra* (Marsham)—Very local; Scarborough (R.L.).

*adstricta* (Esch.)—Common and generally distributed on the moors.

*oblongopunctata* (Fabr.)—Rare; Raincliffe Wood, 3 specimens (E.C.H.).

*nigra* (Schall.)—Common.

*melanaria* (Ill.)—Very common.

*nigrita* (Fabr.)—Very common.

*anthracina* (Ill.)—Very local; Scarborough (R.L.).

*minor* (Gyll.)—Rare; Seamer Moor, Raincliffe Wood (E.C.H.); Scarborough, 10 specimens (W.K.B.).

*strenua* (Panz.)—Common.

*diligens* Sturm—Common.

*aethiops* (Panz.)—Very local and rare; Hutton Buscel Moor (W.C.H.).

*madida* (Fabr.)—Abundant.

var. *concinna* Sturm—Common.

**ABAX** Samouelle

**parallelopipedus** (Pill. & Mitt.)—Uncommon; in carrion traps in the spring, Raincliffe Wood (G.B.W.).

**PLATYDERUS** Stephens

**ruficollis** (Marsham)—Rare; Seamer Moor, one under stone

**CALATHUS** Samouelle

(A.E.W.).

**fuscipes** (Goeze)—Common.

**erratus** Sahlb., C. R.—Fairly common, especially on the moors.

**melanocephalus** (L.)—Very common.

var. **nubigena** Hal.—Local and uncommon; Goathland (A.H.H.S., R.R.U.K.).

**mollis** (Marsham)—Scarborough, on the coast (R.L.); Cloughton (E.C.H.).

**micropterus** (Duft.)—Common in woods, especially under bark, and in moorland valleys in autumn and spring.

**piceus** (Marsham)—Locally common.

**SPHODRUS** Schellenberg

**leucophthalmus** (L.)—Scarborough, one in workshop (R.L.); several in cellar (G.B.W.).

**PRISTONYCHUS** Dejean

**terricola** (Herbst)—West Ayton (W.C.H.); Seamer Moor (A.E.W.); Forge Valley (E.C.H.).

**ODONTONYX** Stephens

**rotundatus** (Payk.)—Common and generally distributed.

**AGONUM** Samouelle

**marginatum** (L.)—Not common; Scarborough (W.K.B.); Raincliffe Wood (G.B.W.).

**mülleri** (Herbst)—Fairly common.

**viduum** (Panz.) var. **moestum** (Duft.)—Scarborough (W.K.B.); Raincliffe Wood (G.B.W.).

**assimile** (Payk.)—Very common.

**ruficorne** (Goeze)—Very common.

**dorsale** (Pont.)—Very common.

**micans** (Nic.)—Scarborough, March and July (W.K.B.).

**fuliginosum** (Panz.)—Fairly common and widely distributed.

**gracile** (Gyll.)—Rare; Levisham (H.B.); Raincliffe Wood under bark of fallen firs (W.K.B.).

**thoreyi** Dej.—Local and rare; Raincliffe Wood (E.C.H.); with the last (W.K.B.).

**LEBIA** Latreille

**chlorocephala** (Hoffm.)—Local and uncommon; Scarborough (W.K.B.); Robin Hood's Bay (J.M.B.).

**RISOPHILUS** Leach

**monostigma** (Sam.)—Near Pickering (W.J.S.).

**atricapillus** (L.)—Uncommon; Scarborough (R.L.).

**DROMIUS** Samouelle

**linearis** (Ol.)—Common.

**agilis** (Fabr.)—Not common; under bark, Staintondale (G.B.W.); Scarborough (W.K.B.).

*meridionalis* Dej.—Not common; Seamer Moor, in faggots East Ayton; Raincliffe Wood (G.B.W.).

*quadrinotatus* (L.)—Fairly common.

*sigma* (Rossi)—Throxenby Mere (R.L., A.S., G.B.W.).

*notatus* Steph.—South Cliff, Scarborough (W.C.H.).

#### **METABLETUS** Schmidt-Goebel

*foveatus* (Geoffr. in Fourcr.)—Several by searching at plant roots in Flixton sand-pits (G.B.W.).

#### **LIONYCHUS** Wissmann

*quadrillum* (Duft.)—Raincliffe Wood at roots of ash (R.L.).

#### **CYMINDIS** Latreille

*vaporariorum* (L.)—Uncommon; on the moors, Langdale Rigg (W.C.H., G.B.W.); near Falcon Inn (G.B.W.); near Robin Hood's Bay (T.S.).

### HALIPLIDAE

#### **BRYCHIUS** Thomson, C. G.

*elevatus* (Panz.)—In running stream, West Ayton (W.C.H., G.B.W.).

#### **HALIPLUS** Latreille

*obliquus* (Fabr.)—Snainton brick-ponds, West Ayton (W.C.H.).

*lineatocollis* (Marsham)—Widely distributed.

*ruficollis* (De G.)—Common.

*heydeni* Wehncke—R. Derwent, near Malton, 1 spn. (E.J.P.).

*fluvialis* Aubé—Rare; Beck Hole (H.B.); Hackness (E.C.H.).

*wehncke* Gerh.—Uncommon; near Goathland (R.R.U.K.).

*fulvus* (Fabr.)—Not common; Throxenby Mere (W.C.H., E.C.H., G.B.W.); Ellerbeck (R.R.U.K.).

*flavicollis* Sturm—Snainton brick-ponds, West Ayton (W.C.H.); Seamer Moor (E.C.H.).

### HYGROBIIDAE

#### **HYGROBIA** Latreille

*hermanni* (Fabr.)—Throxenby Mere (G.B.W.).

### DYTISCIDAE

#### **LACCOPHILUS** Leach

*minutus* (L.)—Generally distributed; West Ayton, Snainton brick-ponds (W.C.H.); Langdale End, Hackness (E.C.H.); Goathland (R.R.U.K.).

#### **HYPHYDRUS** Illiger

*ovatus* (L.)—Common.

#### **HYGROTUS** Stephens

#### **S. HYGROTUS** s.s.

*inaequalis* (Fabr.)—Fairly common.

*versicolor* (Schall.)—Local; Scarborough (R.L.); Snainton brick-ponds, rather plentiful (W.C.H.).

#### **S. COELAMBUS** Thomson, C. G.

*confluens* (Fabr.)—Local; Filey (Y.N.U. Excn.); Goathland (R.R.U.K.).

**impressopunctatus** (Schall.)—Rare; Snainton brick-ponds, 1 spn.; East Ayton, 1 spn. (W.C.H.).

### **DERONECTES** Sharp

**latus** (Steph.)—Local; Cross Cliff (W.C.H.); Ellerbeck (R.R.U.K.).

**duodecimpustulatus** (Fabr.)—Scalby (R.L.); West Ayton (W.C.H.).

**assimilis** (Payk.)—Uncommon; Snainton brick-ponds (W.C.H.); Scarborough (R.L.).

**depressus** (Fabr.)—Throxenby Mere (R.L., E.C.H.); West Ayton (W.C.H.).

**elegans** (Panz.)—Fairly common and widely distributed.

### **OREODYTES** Seidlitz

**davisii** (Curt.)—Fairly common in moorland streams.

**septentrionalis** (Gyll.)—Not uncommon in fast-running streams Scarborough (R.L.); Langdale, West Ayton (W.C.H.); Ellerbeck (R.R.U.K.); Hilla Green (G.B.W.).

**rivalis** (Gyll.)—With the last two, common.

### **HYDROPORUS** Schellenberg

**pictus** (Fabr.)—Well distributed in the Scarborough district.

**granularis** (L.)—Mossy pools near Seamer (W.C.H.).

**lepidus** (Ol.)—Local; Goathland (R.R.U.K.).

**lineatus** (Fabr.)—West Ayton (W.C.H.); Cloughton (E.C.H.).

**tristis** (Payk.)—Common in peaty pools on the moors.

**umbrosus** (Gyll.)—Local; East Ayton, Seamer, Hunmanby (W.C.H.); near Falcon Inn, common, Goathland (G.B.W.).

**angustus** Sturm—Seamer, abundant (W.C.H.); Goathland in peaty pools, rare (R.R.U.K.).

**gyllenhalii** Sch.—Common in peaty moorland pools.

**morio** Aubé—Common in peaty pools.

**striola** (Gyll.)—Abundant; Seamer (W.C.H.); Sleights in wet sphagnum (H.B.); near the Falcon Inn (G.B.W.).

**palustris** (L.)—Very common.

**erythrocephalus** (L.)—Common.

**rufifrons** (Muell., O.F.)—Local and rare; Seamer (W.C.H.); Goathland (R.R.U.K.).

**longulus** Muls.—Rare; Maw Rigg near Langdale End, several specimens in a tiny rill (W.C.H., E.C.H.).

**melanarius** Sturm—Fairly common in peaty pools on the moors.

**memnonius** Nic.—Local, but widely distributed; Langdale Rigg, Cornelian Bay, Seamer, West Ayton (W.C.H.); Scarborough (R.L.); Goathland (R.R.U.K.); near Falcon Inn (G.B.W.).

**obscurus** Sturm—Fairly common in peaty moorland pools.

**nigrita** (Fabr.)—Local; Levisham; very common in pools near the coast (W.C.H.); Filey (G.B.W.); Goathland, Hole of Horcum (H.B.).

**discretus** Fairm.—Very local and rare; Filey, 2 specimens in small puddle (W.C.H.).

**pubescens** (Gyll.)—Common.

**planus** (Fabr.)—Common.

**tessellatus** Drap.—Throxenby Mere (G.B.W.).

**ferrugineus** Steph.—Rare; Black Beck, Langdale Rigg, 3 specimens in May, 1895 (W.C.H.); Scarborough (R.L.); Goathland (R.R.U.K.).

**obsoletus** Aubé—Scalby Beck (R.L., W.C.H.).

#### LACCORNIS Des Gozis

**oblongus** (Steph.)—Rare; pond at Seamer, where it is most abundant in June (W.C.H.).

#### AGABUS Leach

**guttatus** (Payk.)—Not common; Goathland, Ellerbeck (R.R.U.K.).

**biguttatus** (Ol.)—Not common; Scarborough (R.L.).

**paludosus** (Fabr.)—Local; Scarborough (R.L.); Pickering (G.B.W.); Goathland (R.R.U.K.).

**uliginosus** (L.)—Very local and rare; 3 specimens near Seamer (W.C.H.).

**unguicularis** Thoms., C. G.—Local; Seamer (W.C.H.); Beedale, a curious form of female with very distinct red spot on each elytron (E.C.H.).

**didymus** (Ol.)—Local; Filey (W.C.H.); Pickering (G.B.W.); Seamer Moor (E.C.H.); Goathland (R.R.U.K.).

**nebulosus** (Forst.)—Local; Filey (E.C.H.); Scarborough (E.C.H.); Goathland, very common in late summer (R.R.U.K.).

**labiatus** (Brahm)—Locally common; Throxenby Mere, Langdale End, Hutton Buscel Moor (G.B.W.).

**undulatus** (Schrank)—In the collection of W. Pearson there was a specimen said to have been taken in the Scarborough district by W. C. Hey. This record may have been in error.

**sturmii** (Gyll.)—Common.

**chalconatus** (Panz.)—Common and widely distributed.

[**melanarius** Aubé—This occurs just outside our area in a pool in Arncliffe Woods (M.L.T.).]

**bipustulatus** (L.)—Very common.

var. **solieri** Aubé—Goathland (R.R.U.K.).

#### PLATAMBUS Thomson, C. G.

**maculatus** (L.)—Common and variable.

#### ILYBIUS Erichson

**fuliginosus** (Fabr.)—Common and widely distributed.

**ater** (De G.)—Fairly common.

**aenescens** Thoms., C. G.—Very rare; Goathland, moorland reservoir and peat pools (R.R.U.K.).

**fenestratus** (Fabr.)—Rare; Goathland (R.R.U.K.).

#### COPELATUS Erichson

**haemorrhoidalis** (Fabr.)—Uncommon; Filey (E.C.H.).

#### RANTUS (Dejean) Stephens

**exsoletus** (Forst.)—Scarborough (R.L.).

**pulverosus** (Steph.)—Rare; Scalby Beck (E.C.H.).

**bistriatus** (Bergstr.)—Local; moors near Falcon Inn (G.B.W.); Goathland (R.R.U.K.).

#### COLYMBETES Schellenberg

**fuscus** (L.)—Very common.

**DYTISCUS** Linnaeus

- semisulcatus** Muell., O. F.—Widely distributed but not common; Scarborough (R.L.); Seamer Moor, Pickering (G.B.W.).  
**marginalis** (L.)—Common.

**ACILIUS** Leach

- sulcatus** (L.)—Widely distributed and fairly common.

## GYRINIDAE

**GYRINUS** Geoffroy in Mueller, O. F.

- natator** (L.)—There are many records for this species but their authenticity is doubtful.  
 var. **substriatus** Steph.—Helwath Beck (H.B.); Saltergate (W.M.C.).  
**marinus** Gyll.—Throxenby Mere (E.C.H.); Snainton (W.C.H.).

**ORECTOCHILUS** Stephens

- villosus** (Muell., O. F.)—Scalby Beck in abundance (A.E.W. and G.B.W.); Hilla Green (G.B.W.).

## HYDROPHILIDAE

**OCHTHEBIUS** Leach

- exsculptus** Germ.—Local; Black Beck (Langdale End); West Ayton (W.C.H.); Beckhole (H.B.); Goathland (R.R.U.K.); Filey (Y.N.U. Excn., 1903).  
**dilatatus** Steph.—West Ayton, Cornelian Bay (W.C.H.); Scarborough (E.C.H., C.E.S.).  
**bicolor** Germ.—Scarborough (R.L., E.C.H.).  
**minimus** (Fabr.)—Filey (Y.N.U. Excn., 1903); Cloughton (E.C.H.).

**HYDRAENA** Kugelann

- testacea** Curt.—Local; West Ayton (W.C.H.); Hayburn Wyke (C.E.S.).  
**palustris** Er.—West Ayton mill-dam, 1 specimen under stone (W.C.H.).  
**britteni** Joy—Local; Hayburn Wyke (G.B.W.).  
**riparia** Kug.—Generally distributed.  
**nigrita** Germ.—Local and rare; Levisham (W.C.H.); Scalby Beck (C.E.S.); Goathland (R.R.U.K.).  
**rufipes** Curt.—Scalby Beck (G.B.W., C.E.S.); Hayburn Wyke (G.B.W.); Langdale End (W.C.H., E.C.H.).  
**gracilis** Germ.—Widely distributed.  
 s. **elongata** Curt.—Hayburn Wyke (G.B.W.).  
**pulchella** Germ.—Rare; Scalby Beck (R.L.).  
**minutissima** Steph.—Scalby Beck (R.L.).  
**pygmaea** Waterh., G. R.—Rare; West Ayton (W.C.H.); Ellerdale (G.B.W.); Scalby Beck (R.L.).

**LIMNEBIUS** Leach

- truncatellus** (Thunb.)—Common and generally distributed.  
**nitidus** (Marsham)—Scalby Beck (R.L.); the Carrs (E.C.H.).

**HELOPHORUS** Illiger



**S. EMPLEURUS** Hope

*nubilus* Fabr.—Fairly common; Filey Cliffs (W.C.H.); Scarborough (E.G.B.); Hilla Green (G.B.W.).

*rufipes* (Bosc d'Antic)—Uncommon, Yedingham flood-refuse (G.B.W.).

**S. CYPHELOPHORUS** Kuwert

*tuberculatus* Gyll.—Very rare; Scarborough (R.L.); it was probably found in peaty patches on the moors, but has not been seen for many years.

**S. TRICHELOPHORUS** Kuwert

*alternans* Gené—Local.

**S. MEGALELOPHORUS** Kuwert

*aquaticus* (L.)—Common and generally distributed.

var. *aequalis* Thoms., C. G.—Robin Hood's Bay (H.B.).

**S. ATRACTELOPHORUS** Kuwert

*arvernicus* Muls.—Local; Forge Valley (W.C.H.); Ellerbeck by sweeping under banks (R.R.U.K.).

*brevipalpis* Bed.—Common.

**S. HELOPHORUS** s.s.

*minutus* Fabr.—Goathland, not uncommon but local (R.R.U.K.).

*granularis* (L.)—Doubtfully recorded from Wykeham (E.G.B.).

*flavipes* Fabr.—Common.

**HYDROCHUS** Leach

*elongatus* (Schall.)—Scarborough (R.L.).

**COELOSTOMA** Brullé

*orbiculare* (Fabr.)—Local; Langdale End (E.C.H.); Hole of Horcum (H.B.).

**SPHAERIDIUM** Fabricius

*bipustulatum* Fabr.—Scarborough (G.B.W.).

*scarabaeoides* (L.)—Scarborough, Scalby Mills (G.B.W.).

*lunatum* Fabr.—Common and generally distributed.

**CERCYON** Leach

*litoralis* (Gyll.)—Common on the coast.

var. *binotatum* Steph.—Scarborough (G.B.W.).

*depressus* Steph.—Just south of Gristhorpe Bay (W.J.F.).

*lugubris* (Ol.)—Very local; Littlebeck (H.B.).

*atomarius* Fabr.—Very common.

*haemorrhoidalis* (Fabr.)—Widely distributed.

*melanocephalus* (L.)—Very common.

*marinus* Thoms., C. G.—West Ayton, by the side of a ditch (W.C.H.).

*lateralis* (Marsham)—Fairly common.

*terminatus* (Marsham)—Scarborough (C.E.S.).

*pygmaeus* (Ill.)—Common.

*unipunctatus* (L.)—Common.

*quisquilius* (L.)—Probably common but there are few records.

*granarius* Er.—Rare; Yedingham flood-refuse, 2/51 (E.F.G.).

*tristis* (Ill.)—Scarborough (W.C.H.).

*analisis* (Payk.)—Common.



**MEGASTERNUM** Mulsant*obscurum* (Marsham)—Common and generally distributed.**CRYPTOPLEURUM** Mulsant*minutum* (Fabr.)—Common.**HYDROBIUS** Leach*fuscipes* (L.)—Common and generally distributed.var. *picicrus* Thoms., C. G.—Seamer Moor (E.C.H.); Yedingham flood-refuse (G.B.W.).**ANACAENA** Thomson, C. G.*globulus* (Payk.)—Common.*limbata* (Fabr.)—Filey (T.S.); Yedingham flood-refuse (G.B.W.); Langdale End (E.C.H.).**LACCOBIUS** Erichson*minutus* (L.)—Cornelian Bay (C.E.S.).*biguttatus* Gerh.—Cayton Bay (E.C.H.).*striatulus* (Fabr.)—Sherburn, flood-refuse (G.B.W.); Filey (W.C.H.); Goathland (Y.N.U. Excn.).*alutaceus* Thoms., C. G.—Very common at Snainton (W.C.H.); Seamer Moor, Langdale End (E.C.H.); Goathland (R.R.U.K.).**ENOCHRUS** Thomson, C. G.*melanocephalus* (Fabr.)—Scarborough (R.L.); Throxenby Mere (E.C.H.).*testaceus* (Fabr.)—Cayton Bay and the Carrs (E.C.H.).*affinis* (Thunb.)—Rare; Biller Howe Dale (G.B.W.).**CHAETARTHRIA** Stephens*seminulum* (Herbst)—Widely distributed round Scarborough.**BEROSUS** Leach*spinus* (v. Stev.)—Rare; Scarborough (R.L.); Cayton Bay (G.B.W.).

## SILPHIDAE

**NECROPHORUS** Fabricius*humator* (Goeze)—Very common.*investigator* Zett.—Common.*vespilloides* Herbst—Very common in carrion and decaying fungi.*vespillo* (L.)—Common.*vestigator* Hersch.—Very local; Raincliffe Wood (G.B.W.); Scarborough (E.F.G.).**NECRODES** Leach*littoralis* (L.)—Rare; Scarborough in a "maggot-house" (R.L.).**THANATOPHILUS** Leach*rugosus* (L.)—Very common.*sinuatus* (Fabr.)—Pickering (Y.N.U. Excn., 1938).**OEOPTOMA** Leach*thoracicum* (L.)—Common.**ACLYPEA** Reitter*opaca* (L.)—Local; Scarborough (E.C.H.); Ebberston (W.P.); Ramsdale (J.M.B.).**XYLODREPA** Thomson, C. G.*quadripunctata* (L.)—Rare; Raincliffe Wood (G.B.W.); Langdale End (A.M.R.).

**SILPHA** Linnaeus

*tyrolensis* Laich. var. *nigrita* Creutz.—Rare ; Scarborough (E.C.H., G.B.W.).

**ABLATTARIA** Reitter

*laevigata* (Fabr.)—Scarborough (T. Bean).

**PHOSPHUGA** Leach

*atrata* (L.)—Common.

ab. *pedemontana* (Fabr.)—Fairly common and widely distributed.

**LEPTINUS** Mueller, P. W. J.

*testaceus* Muell., P.W.J.—Not common but widely distributed ; Scalby Beck in flood-refuse (R.L.) ; Helwath Beck (H.B.) ; Forge Valley and Scarborough in moss (G.B.W.) ; Raincliffe Wood in moles' nest (R.A.T.) ; Filey in nest of field-mouse (E.C.H.) ; Seamer Moor in moles' nest (G.B.W.).

**PTOMAPHAGUS** Knoch

*subvillosus* (Goeze)—Fairly common and widely distributed.

var. *sericatus* (Chaud.)—Fairly common in Scarborough district.

**NARGUS** Thomson, C. G.

*velox* (Spence)—There are only a few local records of this common beetle.

*wilkinii* (Spence)—Commoner than *N. velox*.

*anisotomoides* (Spence)—Scarborough (R.L.).

**CHOLEVA** Latreille

*spadicea* (Sturm)—Uncommon ; Hayburn Wyke and Raincliffe Wood (G.B.W.).

[*agilis* (Ill.)—Recorded from just outside our area at Ruswarp (F. Readman).]

*angustata* (Fabr.)—Grinstead (W.J.F.) ; Raincliffe Wood (G.B.W.).

*jeanneli* Britt.—Scarborough (R.L.).

**CATOPS** Paykull

*nigricans* (Spence)—Common.

*fuliginosus* Er.—Raincliffe Wood (W.J.F.).

*grandicollis* Er.—Raincliffe Wood in carrion-trap (W.J.F.).

*nigrita* Er.—Local ; Scarborough (E.G.B.) ; Hutton Buscel (W.P.) ; Raincliffe Wood (G.B.W.).

*coracinus* Kelln.—Rare ; Raincliffe Wood (G.B.W.).

*morio* (Fabr.)—Rare ; Raincliffe Wood (G.B.W.).

*kirbii* (Spence)—Common.

*chrysomeloides* (Panz.)—Local ; Raincliffe Wood, Seamer Moor, Yedmandale (G.B.W.).

*longulus* Kelln.—Rare ; Raincliffe Wood in carrion traps (G.B.W.).

*tristis* (Panz.)—Common and widely distributed.

**SCIODREPA** Thomson, C. G.

*fumata* (Spence)—Common.

*watsoni* (Spence)—Local ; Raincliffe Wood, East Ayton (G.B.W.) ; Sleights (H.B.).

**COLON** Herbst

*latum* Kraatz—Very rare ; Scarborough (R.L.).

**dentipes** Sahlb., C.R.

var. **zebei** Kraatz—Very rare; Forge Valley, male by sweeping in late October (G.B.W.).

var. **denticulatum** Kraatz—Very rare; Forge Valley. male by sweeping (G.B.W.).

**brunneum** Latr.—Rare; Scarborough (R.L.).

**serripes** Sahlb., C.R.—Rare; Scarborough (R.L.); Scalby Beck (G.B.W.).

#### LEIODIDAE

**HYDNOBIUS** Schmidt, W. L. E.

**punctatus** (Sturm)—Rare; Scarborough (T.W.); Ringing Keld Bog by sweeping in a boggy place on the moor (R.L.).

var. **punctatissimus** (Steph.)—Rare; Scalby Beck flood-refuse, Ringing Keld Bog (R.L.).

**LEIODES** Latreille

**rugosa** Steph.—Very local; plentiful in flood-refuse in Scalby Beck (R.L.); Raincliffe Wood, 1 specimen by night sweeping in late October (G.B.W.).

**cinnamomea** (Panz.)—Raincliffe Wood, 4 specimens in rain-water pools, end of October (G.B.W.).

**calcarata** (Er.)—Fairly common; West Ayton (W.C.H.); Littlebeck (M.L.T.); Scalby Beck, plentiful in flood-refuse (R.L.).

ab. **nigrescens** Fleisch.—Yedmandale (E.C.H.).

**lunicollis** (Rye)—Rare; Scalby Beck in flood-refuse (R.L.).

**dubia** (Kug.)—Scalby Beck, plentiful in flood-refuse (R.L.); Danes' Dyke (G.B.W.); Scarborough (C.E.S.).

**brunnea** (Sturm)—Rare; Scalby Beck in flood-refuse (R.L.).

**litura** Steph.—Scalby Beck, plentiful in flood-refuse (R.L.).

**ovalis** (Schmidt, W.L.E.)—Scalby Beck, plentiful (R.L.); Goathland (H.B.).

**similata** (Rye)—Scarborough (R.L.).

**scita** (Er.)—Scalby Beck, plentiful in flood-refuse (R.L.).

**badia** (Sturm)—Scalby Beck, plentiful in flood-refuse (R.L.); Scarborough (C.E.S.).

**parvula** (Sahlb., C. R.)—Rare in flood-refuse (R.L.).

**CYRTUSA** Erichson

**minuta** (Ahr.)—In flood-refuse; Scalby Beck, plentiful in spring (R.L.); Yedingham (G.B.W.).

**COLENIS** Erichson

**immunda** (Sturm)—Scarborough in moss (R.L.).

**AMPHICYLLIS** Erichson

**globus** (Fabr.)—Scarborough at fern roots in Raincliffe Wood (R.L.).

**ANISOTOMA** Kugelann

**humeralis** (Fabr.)—Widely distributed; Raincliffe Wood in dry fungus on alder (R.L.); Hutton Buscel (W.C.H.); Pickering (M.D.B.); Helwath Beck (H.B.).

**orbicularis** (Herbst)—Rare; Raincliffe Wood at fern root (G.B.W.).

**AGATHIDIUM** Kugelann

- nigripenne** (Fabr.)—Fairly common and generally distributed.  
**atrum** (Payk.)—Ringing Keld Bog (E.C.H.); Seamer Moor in moss, Beckhole (G.B.W.).  
**marginatum** Sturm—Scarborough (E.G.B.).  
**varians** Beck—Scarborough (R.L.); Raincliffe Wood (G.B.W.).  
**rotundatum** Gyll.—Rare; Sleights (H.B.).  
**nigrinum** Sturm—Sleights (H.B.).

## CLAMBIDAE

**CALYPTOMERUS** Redtenbacher

- dubius** (Marsham)—Rare; Sleights (H.B.).

**CLAMBUS** Fischer von Waldheim

- minutus** (Sturm)—Hilla Green (G.B.W.); Beckhole, not uncommon in flood-refuse (H.B.).  
**armadillus** (De G.)—Local; Scarborough (R.L.); Thornton-le-Dale (G.B.W.); Cloughton (E.C.H.).

## SCYDMAENIDAE

**EUTHEIA** Stephens

- schaumii** Kies.—In great abundance for several years near the Mere, when the tip was there (G.B.W.).  
**scydmaenoides** Steph.—Rare; Raincliffe Wood, under bark (R.L.).

**NEURAPHES** Thomson, C. G.

- rubicundus** (Schaum)—Rare; Raincliffe Wood, under bark (R.L.); Beckhole (H.B.).  
**elongatulus** (Muell., P.W.J. & Kunze)—Rare; Scarborough (R.L.); Forge Valley (E.C.H.).  
**sparshalli** (Denny)—Rare; Scarborough (R.L.); Beckhole (H.B.).

**STENICHNUS** Thomson, C. G.

- scutellaris** (Muell., P.W.J. & Kunze)—Scarborough North-side, plentiful in moss (R.L., C.E.S.); Seamer Moor (E.C.H.); Raincliffe Wood (G.B.W.).  
**collaris** (Muell., P.W.J. & Kunze) — Fairly common and widely distributed.  
**exilis** (Er.)—West Ayton Moor, in moss (W.C.H.).

**EUCONNUS** Thomson, C. G.

- fimetarius** (Chaud.)—Scarborough (R.L.).  
**nanus** (Schaum)—Raincliffe Wood, in moss on fern roots, in some numbers (R.L., T.W.).

**SCYDMAENUS** Latreille

- tarsatus** Muell., P. W. J. & Kunze — West Ayton (W.C.H.); Scarborough, rather plentiful in haystack bottom (R.L.); Beckhole (H.B.).

## ORTHOPERIDAE

**ORTHOPERUS** Stephens

- brunnipes** (Gyll.)—Rare; Scarborough, 1 specimen (T.W.); Beckhole, in haystack refuse (H.B.).

## PTILIIDAE

**PTENIDIUM** Erichson

**laevigatum** Er.—Raincliffe Wood in 'moles' nests, Seamer in wasps' nests, Scarborough (G.B.W.); Saltergate, in refuse in shippon (H.B.).

**turgidum** Thoms., C.G.—Rare; Scarborough (T.W.).

**intermedium** Wank.—Scarborough, under rotten birch-bark in March and April (T.W.).

**fuscicorne** Er.—Scarborough, South Cliff (C.E.S.).

**pusillum** (Gyll.)—Scarborough (R.L., G.B.W.); Beckhole, Saltergate (H.B.).

**punctatum** (Gyll.)—Scalby Mills, common in rotting sea-weed (G.B.W.).

**nitidum** (Heer)—Raincliffe Wood, Thornton-le-Dale, Yedingham flood refuse (G.B.W.); Beckhole, Saltergate (H.B.).

**PTILIUM** Erichson

**myrmecophilum** (All.)—Barns Cliff, common with **Formica rufa** (R.L., G.B.W.); Helwath Beck (H.B.).

**PTILIOLUM** Seidlitz

**spencei**—Rare; Raincliffe Wood, in moss (G.B.W.); Thornton-le-Dale (G.B.W.).

**NEPHANES** Thomson, C. G.

**titan** (Newm.)—Barns Cliff, in nests of **Formica rufa** (C.E.S., G.B.W.).

**PTERYX** Matthews, A.

**suturalis** (Heer)—Scarborough (R.L.); Raincliffe Wood (G.B.W.).

**ACROTRICHIS** Motschulsky

**grandicollis** (Mann.)—Raincliffe Wood (E.C.H., G.B.W.); Sleights (H.B.).

**montandonii** (All.)—Barns Cliff, abundant in nests of **Formica rufa** (G.B.W.); Helwath Beck, Beckhole, in haystack refuse (H.B.).

**atomaria** (De G.)—Scarborough (R.L.); Forge Valley (G.B.W.); Beckhole, in haystack, Saltergate, in shippon (H.B.).

**intermedia** (Gillm.)—Forge Valley, in moss, Raincliffe Wood, in cut grass, Scalby (G.B.W.); Beckhole (H.B.).

**fascicularis** (Herbst)—Scalby, common in cut grass (G.B.W.); Beckhole (H.B.).

var. **laetitiae** (Matth., A.) Raincliffe Wood, in moss (G.B.W.); Beckhole (H.B.).

**chevrolati** (All.)—Scarborough (R.L.).

## SCAPHIDIIDAE

**SCAPHIDIUM** Olivier

**quadrimaculatum** Ol.—Fairly common and widely distributed.

**SCAPHISOMA** Leach

**agaricinum** (L.)—Local; Sawdon Dale, under bark (G.B.W.); Pickering (M.D.B.); Sleights (H.B.).

**boleti** (Panz.)—Local; Cayton Bay (R.A.T.); Helwath Beck (H.B.).

## STAPHYLINIDAE

**SIAGONIUM** Kirby, W.

**quadricorne** Kirby, W.—Rare; Raincliffe Wood, under bark (R.L.); Deepdale (A.E.W.); Forge Valley (G.B.W.).

**MICROPEPLUS** Latreille

**staphylinoides** (Marshall)—Scarborough (E.G.B.); Filey, in nest of field-mouse (E.C.H.); Scalby (G.B.W.).

**fulvus** Er.—Hackness; in nest of field-mouse, Filey (E.C.H.); Scarborough (C.E.S., G.B.W.); Beckhole (H.B.).

**porcatus** (Fabr.)—Yedingham flood-refuse (G.B.W.).

**PSEUDOPSIS** Newman

**sulcata** Newm.—Rare, but widely distributed in haystacks near Scarborough (T.S., G.B.W.).

**PHLOEOCHARIS** Mannerheim

**subtilissima** Mann.—Somewhat local, but not uncommon.

**METOPSIA** Wollaston

**clypeata** (Muell., P.W.J.)—Scarborough, in moss (R.L.); Filey (E.C.H.); Sleights, Goathland (H.B.).

**MEGARTHURUS** Stephens

**depressus** (Payk.)—Not uncommon round Scarborough.

**affinis** Mill., L.—Rare; Givendale (G.B.W.).

**sinuatocollis** (Boisd. & Lac.)—Rare; Scarborough (R.L.).

**denticollis** (Beck)—Uncommon; Forge Valley, 1 in moss; Scalby High Moor (G.B.W.).

**PROTEINUS** Latreille

**ovalis** Steph.—Fairly common and generally distributed.

**brachypterus** (Fabr.)—Common.

**macropterus** (Gyll.)—Raincliffe Wood, not uncommon in fungus heaps (G.B.W.).

**EUSPHALERUM** Kraatz

**pallidum** (Grav.)—Somewhat local but not uncommon.

**sorbi** (Gyll.)—Fairly common.

**torquatum** (Marsh.)—Common, at times abundant.

**primulae** (Steph.)—Common.

**minutum** (Fabr.)—Common.

**ACRULIA** Thomson, C. G.

**inflata** (Gyll.)—Rare, but widely distributed in the Scarborough district.

**ACROLOCHA** Thomson, C. G.

**striata** (Grav.)—Raincliffe Wood (H.C.H.); Yedingham flood-refuse (G.B.W.); Gristhorpe in sheep-dung (W.J.F.).

**PHYLLODREPA** Thomson, C. G.

**floralis** (Payk.)—Common.

**vilis** (Er.)—Local; Wykeham, under bark (G.B.W.); Goathland (H.B.).

**OMALIUM** Gravenhorst

**laeviusculum** Gyll.—Common in decaying sea-weed.

**rivulare** (Payk.)—Very common.



*septentrionis* Thoms., C.G.—Very rare; Scalby Beck, 1 in flood-refuse (G.B.W.).

*allardi* Fairm.—Local; Sleights (H.B.).

*oxyacanthae* Grav.—Local; Scarborough (G.B.W.).

*exiguum* Gyll.—Scarborough (Fowler, Brit. Col. II, 414).

*caesum* Grav.—Rare; Raincliffe Wood in dead leaves (G.B.W.).

*italicum* Bernh.—Rare; Scarborough (R.L.).

*excavatum* Steph.—Common.

### PHLOEONOMUS Heer

*pusillus* (Grav.)—Fairly common under bark.

### XYLODROMUS Heer

*depressus* (Grav.)—East Ayton, in haystack (W.C.H.).

*concinus* (Marsham)—West Ayton (W.C.H.); Scarborough (G.B.W.); Beckhole (H.B.).

*ab. fuliginosum* Heer—Scalby (G.B.W.).

### PHILORINUM Kraatz

*sordidum* (Steph.)—Fairly common.

### MICRALYMMMA Westwood

*marinum* (Stroem, H.)—Common between layers of rock on the coast. Robin Hood's Bay (T.S., G.B.W.); Scarborough (E.C.H.); Gristhorpe Bay (G.B.W.).

### PHYLLODREPOIDEA Ganglbauer

*crenata* (Grav.)—Rare; Sleights (H.B.).

### DELIPHRUM Erichson

*tectum* (Payk.)—Scalby Beck, in flood refuse (R.L.).

### ANTHOBIUM Samouelle

*unicolor* (Marsham)—Common.

*atrocephalum* (Gyll.)—Fairly common.

### OLOPHRUM Erichson

*piceum* (Gyll.)—Common.

*fusum* (Grav.)—Scarborough (R.L.); Hackness (E.C.H.).

*consimile* (Gyll.)—Rare; Seamer Moor, 2 in moss (G.B.W.); Scarborough (C.E.S.).

### ACIDOTA Stephens

*crenata* (Fabr.)—Rare; Ringing Keld Bog, in sphagnum (R.L.).

*cruentata* (Mann.)—Rare; Scarborough (R.L.).

*var. ferrugineum* (Er.)—Scalby Beck, 5 specimens in flood-refuse (R.L.).

### LESTEVA Latreille

*punctata* Er.—Hayburn Wyke, Goathland, common in moss in waterfalls (G.B.W.).

*heeri* Fauv.—Fairly common and widely distributed.

*longelytrata* (Goeze)—Common.

*s. maura* Er.—Not uncommon on banks of Scalby Beck, Ellerburn (G.B.W.); Scarborough (C.E.S.).

*monticola* Kies.—Rare; Forge Valley, in moss (G.B.W.).

*pubescens* Mann.—Generally distributed in the Scarborough district.

### GEODROMICUS Redtenbacher

*plagiatus* (Fabr.)—Rare; Scarborough (R.L.); Grosmont (W.J.F.).



**ANTHOPHAGUS** Gravenhorst*caraboides* (L.)—Common and generally distributed.**CORYPHIUM** Stephens*angusticollis* Steph.—Rare; Forge Valley (G.B.W.).**SYNTOMIUM** Curtis*aeneum* (Muell., P.W.J.)—Local; Raincliffe Wood (R.L.); Yedingham flood-refuse (G.B.W.).**DELEASTER** Erichson*dichrous* (Grav.)—Scalby Beck, in flood-refuse (R.L., G.B.W.).var. *leachii* (Curt.)—Scalby Beck (R.L.).**COPROPHILUS** Latreille*striatulus* (Fabr.)—Scarborough (R.L.); Beckhole (H.B.); West Ayton (W.C.H.).**ANCYROPHORUS** Kraatz*aureus* Fauv.—Uncommon; Scalby Beck, in flood-refuse (R.L.,*omalinus* (Er.)—With the last (R.L.). G.B.W.).**THINOBIUS** Kiesenwetter*linearis* Kr.—Rare; Scarborough (T.W.); Hayburn Wyke (R.L.).*longipennis* (Heer)—Scalby Beck, in gravel (R.L.).**TROGOPHLOEUS** Mannerheim*arcuatus* (Steph.)—Local; Scarborough (W.H.); Yedingham flood-refuse (G.B.W.).*bilineatus* (Steph.)—Local; Scarborough (T.W.); Raincliffe Wood (E.C.H.).*elongatulus* Er.—Fairly common.*corticinus* (Grav.)—Scarborough (T.W.).*pusillus* (Grav.)—Rare; Scalby Beck, 1 in flood-refuse (G.B.W.).**APLODERUS** Stephens*caelatus* (Grav.)—Uncommon; Yedingham and Sherburn, in flood-refuse; Forge Valley by sweeping (G.B.W.).**OXYTELUS** Gravenhorst*rugosus* (Fabr.)—Very common.*insecatus* Grav.—Rare; Forge Valley (E.C.H.).*laqueatus* (Marsham)—Common.*sculptus* Grav.—Common; a melanic form in Lowdales (E.C.H.).*inustus* Grav.—Common.*sculpturatus* Grav.—Very common.*nitidulus* Grav.—Common.*complanatus* Er.—Rare; Scarborough, in dung (G.B.W.).*fairmairei* Pand.—Hole of Horcum, frequent in sheep-dung (H.B.).*tetracarinatus* (Block)—Very common.**PLATYSTETHUS** Mannerheim*arenarius* (Geoffr. in Fourcr.)—Somewhat local but widely distributed.*cornutus* (Grav.)—Scarborough (R.L.); Cornelian Bay, Sherburn flood-refuse (G.B.W.); Fylingdales Moor (H.B.).**BLEDIUS** Samouelle*pallipes* (Grav.)—Local; Scarborough (Fowler, Brit. Col., II. 368); Robin Hood's Bay (H.B.).

**terebrans** Sch.—Whisperdales (E.C.H.). This was determined by Dr. Joy, but Mr. Bayford says it is **pallipes**.

**longulus** Er.—Scalby Beck (R.L.).

**opacus** (Block)—Cornelian Bay (R.L.); base of cliffs, Filey, 6/52 (J. H. Flint).

**gallicus** (Grav.)—Cornelian Bay (R.L., C.E.S.).

**femoralis** (Gyll.)—The red variety only, in plenty, Scarborough (R.L.).

[**dissimilis** Er.—The only British locality for this species is in the clay cliffs just south of Bridlington; the var. **nigricans** Er. occurs with

**erraticus** Er.—Rare; Whisperdales (E.C.H.). it.]

**subterraneus** Er. Local; Scalby Beck, in flood-refuse (R.L.); Pickering (G.B.W.).

**arenoides** Tott.—Scarborough (R.L.).

### **OXYPORUS** Fabricius

**rufus** (L.)—Not common but widely distributed; Wykeham, Flixton.

Yedmandale (G.B.W.); Scalby Beck, in flood-refuse (R.L.).

### **STENUS** Latreille

**biguttatus** (L.)—Not common; Scalby Beck (H.C.H.).

**comma** Lec.—Rare; Langdale End (E.C.H.).

**guttula** Muell., P.W.J.—Common.

**guynemeri** du Val—Not uncommon in moss in waterfalls; Hayburn Wyke, Goathland (G.B.W.); Scalby Beck (R.L., E.C.H.).

**juno** Fabr.—Common.

**clavicornis** (Scop.)—Common and generally distributed.

**rogeri** Kr.—Common.

**bimaculatus** Gyll.—Fairly common but somewhat local.

**boops** Ljungh—Common.

**morio** Grav.—Very local; Cornelian Bay (G.B.W.).

**melanopus** (Marsham)—Filey (E.C.H.).

**argus** Grav.—Scarborough (E.G.B.).

**pusillus** Steph.—Common.

**nanus** Steph.—Not common; Burniston (G.B.W.); Scarborough (C.E.S.).

**carbonarius** Gyll.—Yedingham flood refuse (G.B.W.).

**crassus** Steph.—Scarborough (Fowler, Brit. Col. II, 343); Sherburn flood-refuse (G.B.W.).

**brunnipes** Steph.—Common and generally distributed.

**nigritulus** Gyll.—Rare; Scarborough, in cut grass (G.B.W.).

**latifrons** Er.—Hayburn Wyke (W.C.H.); Raincliffe Wood, Scarborough (E.C.H.).

**fulvicornis** Steph.—Somewhat local but well distributed.

**tarsalis** Ljungh—Common.

**similis** (Herbst)—Common.

**cicindeloides** (Schall.)—Hackness, Scalby Beck, Raincliffe Wood (E.C.H.).

**binotatus** Ljungh—West Ayton (W.C.H.); Raincliffe Wood, Cayton Bay (E.C.H.); Sherburn, in flood-refuse (G.B.W.).

**pubescens** Steph.—Common.

*flavipes* Steph.—Common.

*nitidiusculus* Steph.—Common.

*picipennis* Er.—East Ayton (W.C.H.); Scarborough (C.E.S.).

*bifoveolatus* Gyll.—Common in Scarborough district (G.B.W.);  
Flamborough (T.S.).

*picipes* Steph.—Common.

*aceris* Steph.—Uncommon; Forge Valley (G.B.W.); Scarborough  
(C.E.S.).

*impressus* Germ.—Common.

*erichsoni* Rye—Hackness in wet moss (W.C.H.).

*ossium* Steph.—Raincliffe Wood (E.C.H.); Scarborough (C.E.S.);  
Sherburn (G.B.W.).

*subaeneus* Er.—Cloughton (E.C.H.).

*palustris* Er.—Scarborough (E.G.B.); Raincliffe Wood (E.C.H.).

#### **DIANOUS** Samouelle

*coerulescens* (Gyll.)—Common in moss in waterfalls.

#### **EUAESTHETUS** Gravenhorst

*ruficapillus* Boisd. & Lac.—Scarborough, by beating oaks (R.L.);  
Thornton-le-Dale (E.C.H.).

#### **PAEDERUS** Fabricius

*litoralis* Grav.—Throxenby Mere (R.L., E.C.H.); Thornton-le-Dale  
(E.C.H.).

#### **RUGILUS** (Samouelle) Curtis

*orbiculatus* (Payk.)—Common.

*erichsoni* (Fauv.)—Rather local.

#### **MEDON** Stephens

*fuscus* (Mann.)—Forge Valley, several under stone (W.C.H.);  
Hackness, Raincliffe Wood (E.C.H.).

*pocoferus* Peyr.—Rare; Cloughton (E.C.H.).

#### **SUNIUS** Stephens

*propinquus* (Bris.)—Rare; Yedingham, 1 in flood-refuse (G.B.W.).

#### **LITHOCHARIS** Dejean

*obsoleta* (von Nordm.)—Rare; Scarborough (R.L.); in cut grass,  
Scarborough (G.B.W.).

*ochracea* (Grav.)—Common.

#### **LATHROBIUM** Gravenhorst

*multipunctum* Grav.—Local; Scarborough (R.L.); Scalby Beck  
(G.B.W.).

*quadratum* (Payk.)—Scarborough (R.L.).

*terminatum* Grav.—Local; Scarborough (R.L.); Yedingham flood-  
refuse (G.B.W.).

[*elongatum* (L.)] var. *fraudulentum* Ganglb.—West Ayton  
(W.C.H.); Forge Valley (E.C.H.).

*geminum* Kraatz—Yedingham flood-refuse (G.B.W.); West Ayton  
(W.C.H.).

*ripicola* Czwal.—Scalby Beck (G.B.W.).

*fulvipenne* Grav.—Common.

*brunnipes* (Fabr.)—Common.

*longulum* Grav.—Rare; Yedingham flood-refuse (G.B.W.).

**OCHTHEPHILUM** Stephens

**fracticorne** (Payk.)—Rare; Ringing Keld Bog, in wet sphagnum (E.C.H.).

**LEPTACINUS** Erichson

**parumpunctatus** (Gyll.)—Gristhorpe, sheep-dung (W.J.F.).

**sulcifrons** (Steph.)—Common.

**formicetorum** Maerk.—Barns Cliff, Langdale, common in nests of

**Formica rufa** (G.B.W.); Helwath Beck (H.B.).

**XANTHOLINUS** Serville

**fracticornis** (Muell., O.F.)—Very common.

**angustatus** Steph.—Local; Raincliffe Wood, Givendale (E.C.H.); Hole of Horcum, Beckhole (H.B.).

**atratus** Heer—Helwath Beck (H.B.).

**glabratus** (Grav.)—Common.

**tricolor** (Fabr.)—Pickering (E.C.H.); Goathland (H.B.).

**linearis** (Oliv.)—Common.

**longiventris** Heer—Fairly common.

**GAUROPTERUS** Thomson, C. G.

**fulgidus** (Fabr.)—Cayton Bay (W.P.).

**BAPTOLINUS** Kraatz

**affinis** (Payk.)—Common.

**GYROHYPNUS** Samouelle

**punctulatus** (Goeze)—Very common.

**laeviusculus** (Steph.)—Local; Raincliffe Wood (H.C.H.).

**angustus** (Steph.)—Common and generally distributed.

**myrmecophilus** (Kies.)—Not quite so common as the last.

**PHILONTHUS** Stephens

**splendens** (Fabr.)—Common.

**intermedius** Boisd. & Lac. var **donisthorpei** Dollm.—Filey (W.J.F.); Yedingham flood-refuse (G.B.W.).

**laminatus** (Cruetz)—Fairly common.

**politus** (L.)—Common.

**succicola** Thoms., C. G.—Seamer Moor (G.B.W.); Scarborough (G.B.W., C.E.S.).

**addendus** Sharp—Yedingham flood-refuse (G.B.W.).

**tenuicornis** Muls. & Rey—Harwood Dale (G.B.W.).

**rotundicollis** Mén.—Very local; Scarborough (W.K.B.); Harwood Dale (G.B.W.); Beckhole (H.B.).

**sanguinolentus** (Grav.)—Not common; Yedingham flood-refuse (G.B.W.).

**decorus** (Grav.)—Common and widely distributed.

**fuscipennis** (Mann.)—Common and widely distributed.

**mannerheimi** Fauv.—Rare; Yedingham flood-refuse, 2 specimens (G.B.W.).

**varius** (Gyll.)—Common.

**marginatus** (Fabr.)—Common.

**longicornis** Steph.—Scarborough (C.W.R.); Scalby (G.B.W.).

**varians** (Payk.)—Common, especially in dung.

**jurgans** Tott.—Scarborough (G.B.W.).

**albipes** (Grav.)—Uncommon; Sherburn flood-refuse (G.B.W., J.J.W.).

**fimetarius** (Grav.)—Common and generally distributed.

**cephalotes** (Grav.)—Uncommon; Seamer Moor, 1 in carrion trap in January (G.B.W.).

**pachycephalus** Nordm.—Common.

**nigriventris** Thoms., C. G.—Uncommon; Raincliffe Wood (G.B.W.).

**ventralis** (Grav.)—West Ayton, in dung heaps (W.C.H.).

**discoideus** (Grav.)—Scarborough (R.L.); Raincliffe Wood

**nigrita** (Grav.)—Sleights (H.B.). (E.C.H.).

**puella** von Nordm.—Fairly common.

**rectangulus** Sharp—Raincliffe Wood (G.B.W.).

#### GABRIUS Stephens

**splendidulus** Grav.—Thornton-le-Dale, 1/8/53 (A.M.R.).

**nigritulus** (Grav.)—Common in Yedingham flood-refuse (G.B.W.); Beckhole (H.B.); Scarborough (R.L.).

**pennatus** Sharp—Common; Ayton, Yedingham flood-refuse (G.B.W.).

**appendiculatus** Sharp—Sherburn flood-refuse (G.B.W., J.J.W.); Beckhole (H.B.).

#### CAFIUS Stephens

**xantholoma** (Grav.)—Very common; sometimes swarms in sea-weed.

var. **variolosus** Sharp—Not uncommon on seaweed at the mouth of Scalby Beck (G.B.W.).

#### REMUS Holme

**sericeus** Holme—Cornelian Bay under sea-weed (R.L.).

#### STAPHYLINUS Linnaeus

**pubescens** De G.—Local; Scarborough (R.L.).

**stercorarius** Oliv.—Fairly common.

**caesareus** Ced.—Langdale End (W.C.H.); near Scarborough in very wet moss (R.L.).

**erythropterus** (L.)—Uncommon; Scarborough (R.L.); Langdale (G.B.W.).

**olens** Muell., O.F.—Common, especially in the autumn.

**brunnipes** Fabr.—Common and widely distributed.

**aeneocephalus** De G.—All my local specimens are this species s. str (G.B.W.).

**ater** Grav.—Scarborough (E.C.H.).

**globulifer** Geoffr. in Fourcr.—Fairly common.

**morsitans** Rossi—Rare; Fylinghall, 1 specimen (G.B.W.); Thornton-le-Dale (W.D.H.).

#### ONTHOLESTES Ganglbauer

**tessellatus** (Geoffr. in Fourcr.)—Not common but widely distributed.

#### CREOPHILUS Samouelle

**maxillosus** (L.)—Not a common species near Scarborough.

#### HETEROTHOPS Stephens

**binotatus** (Grav.)—Beckhole (H.B.).

**praeivius** Er.—Scarborough (R.L.).

var. **niger** Kr.—Near Bridlington in moles' nest (W.E.S.).

**QUEDIUS** Stephens

**brevis** Er.—Not common; Barns Cliff, in nests of **Formica rufa** (G.B.W.); Langdale (E.C.H.); Helwath Beck (H.B.); Filey, away from ants' nests (E.C.H.).

**lateralis** (Grav.)—Local; Robin Hood's Bay (W.J.F.); Thornton-le-Dale (W.D.H.).

**longicornis** Kr.—Rare; Raincliffe Wood, 1 in carrion; Oliver's Mount, 1 in rotten turnip (G.B.W.).

**nigrocaeruleus** Fauv.—Rare; 1 bred from moles' nest at Ganton (G.B.W.).

**othiniensis** (Joh.)—Fairly common in moles' nests; Raincliffe Wood, Sherburn, Brompton (G.B.W.).

**cruentus** (Oliv.)—Not common; Forge Valley (H.C.H.).

**brevicornis** Thom., C. G.—A specimen bred from moles' nest near Bridlington (W.E.S.).

**mesomelinus** (Marsham)—Common and generally distributed.

**maurus** Sahlb., C.R.—Local; Forge Valley (G.B.W.); Goathland (H.B.).

**cinctus** (Payk.)—Fairly common.

**laevigatus** (Gyll.)—Uncommon; Forge Valley (G.B.W.); Thornton-le-Dale (W.D.H.); Sleights (H.B.).

**fuliginosus** (Grav.)—Common.

**tristis** (Grav.)—Common.

**molochinus** (Grav.)—Common.

**picipes** (Mann.)—Fairly common and widely distributed.

**maritimus** Sahlb.—Not uncommon in moss, especially in waterfalls; our local records of **umbrinus** Er. must for the present be transferred to this species.

**nigriceps** Kr.—Local; Harwood Dale, Seamer Moor (G.B.W.).

**maurorufus** (Grav.)—Hayburn Wyke (G.B.W., A.E.W.).

**fumatus** Steph.—Raincliffe Wood, Forge Valley, Hayburn Wyke (G.B.W.).

**auricomus** Kies.—Not uncommon in moss in waterfalls.

**scintillans** (Grav.)—Scarborough (G.B.W.).

**rufipes** (Grav.)—Scarborough (T.S.); Yedingham (G.B.W.).

**semiaeneus** Steph.—Robin Hood's Bay (W.J.F.).

**hyperboreus** Er.—Common in R. Derwent flood-refuse.

**boops** (Grav.)—The local records of this species need to be revised.

We probably possess **aridulus** (Janss.) and **arestor** Tott.

**HABROCERUS** Erichson

**capillaricornis** (Grav.)—Rare; Scarborough (R.L.).

**TRICHOPHYA** Mannerheim

**pilicornis** (Gyll.)—Very local; Scarborough (R.L.); Yedmandale (G.B.W.).

**MYCETOPORUS** Mannerheim

**brunneus** (Marsham)—Somewhat local; Sherburn flood-refuse, Stony Marl Moor, under felted algae (G.B.W.); Beckhole (H.B.).

**longulus** Mann.—Yedingham flood-refuse, Saltergate (G.B.W.); Goathland (H.B.).



*splendicus* (Grav.)—Seamer Carrs (E.C.H.); Yedingham (G.B.W.); Goathland (H.B.).

**LORDITHON** Thomson. C. G.

*trinotatus* (Er.)—Common and widely distributed.

*thoracicus* (Fabr.)—Common.

*lunulatus* (L.)—Common.

**BOLITOBIOUS** Samouelle

*analis* (Payk.)—Uncommon; West Ayton (W.C.H.); Scarborough (R.L.); Raincliffe Wood (E.C.H.).

*cingulatus* (Mann.)—Rare; Scarborough (R.L., E.C.H.).

*inclinans* (Grav.)—Scarborough (R.L.).

**CONOSOMUS** Motschulsky

*testaceus* (Fabr.)—Common.

*immaculatus* (Steph.)—Rare; Sleights (H.B.).

*pedicularius* (Grav.) var. *lividus* (Er.)—Common.

**TACHYPORUS** Gravenhorst

*nitidulus* (Fabr.)—Fairly common.

*pusillus* Grav.—Common.

*transversalis* Grav.—Local and rare; Scarborough (R.L.); Yedmandale (G.B.W.).

*atriceps* Steph.—Local; Scarborough (G.B.W.).

*tersus* Er.—Rare; Beckhole, Sleights (H.B.).

*chrysomelinus* (L.)—Very common.

*scutellaris* Rye—Langdale End (H.C.H.); Raincliffe Wood (E.C.H.).

*hypnorum* (Fabr.)—Very common.

*solutus* Er.—Raincliffe Wood, Filey, Yedmandale (E.C.H.).

*formosus* Matth., A. H.—Rare; Scalby Beck (C.E.S.).

*obtusus* (L.)—Very common.

var. *nitidicollis*—Common near Scarborough.

**LAMPRINODES** Luze

*saginata* (Grav.)—Very local; Scarborough (R.L., C.E.S.).

**TACHINUS** Gravenhorst

*lignorum* (L.)—Raincliffe Wood in carrion traps (G.B.W.).

*proximus* Kraatz—Thornton-le-Dale (M.L.T.); Helwath Beck (H.B.).

*humeralis* Grav.—Common and widely distributed.

*subterraneus* (L.)—Common.

*rufipes* (De G.)—Common.

*laticollis* Grav.—Raincliffe Wood (E.C.H.).

*marginellus* (Fabr.)—Common.

*corticinus* Grav.—Common.

*rufipennis* Gyll.—Raincliffe Wood in carrion traps (G.B.W.).

*elongatus* Gyll.—With the last, fairly common in the spring (G.B.W.).

**LEUCOPARYPHUS** Kraatz

*silphoides* (L.)—Common in manure heaps.

**HYPOCYPTUS** Mannerheim

*longicornis* (Payk.)—Common.



*laeviusculus* Mann.—Local; Seamer Moor (G.B.W.).

*seminulum* Er.—Rare; Cornelian Bay (C.E.S.).

# **GYMNUSA** Karsten

*brevicollis* (Payk.)—Very local; Scarborough (R.L.); abundant at Sleights (H.B.).

*variegata* Kies.—Very local; Ringing Keld Bog (R.L.).

# **MYLLAENA** Erichson

*intermedia* Er.—Rare; Burniston in cut grass (G.B.W.).

*graeca* Kr.—Very rare; the British status of this insect rests on five specimens taken at Scarborough many years ago (T.W.), probably on the coast.

*kraatzii* Sharp—Very local; Scarborough (R.L.).

*elongata* (Matth., A. H.)—Very local; Scarborough (R.L., C.E.S.).

*brevicornis* (Matth., A. H.)—Local; Thornton-le-Dale, Hayburn Wyke (G.B.W.); Sleights (H.B.).

# **OLIGOTA** Mannerheim

*apicata* Er.—Scarborough (W.W.F.).

*inflata* Mann.—Widely distributed.

*atomaria* Er.—Very local; Saltergate in shippen refuse (H.B.).

*pusillima* (Grav.)—Scarborough (R.L.).

# **ENCEPHALUS** Stephens

*complicans* Westw.—Not common; Scarborough (R.L.); Sherburn flood-refuse (G.B.W.).

# **GYROPHAENA** Mannerheim

*affinis* Sahlb., C. R.—Goathland (H.B.).

*gentilis* Er.—Scarborough (R.L.).

*fasciata* (Marsham)—Fylinghall (W.J.F.).

*lucidula* Er.—Scarborough (R.L.).

*strictula* Er.—Very local and rare; Scarborough (T.W.).

# **AGARICOCCHARA** Kraatz

*latissima* (Steph.)—Scarborough, by beating old trees, abundant (R.L.).

# **HOMALOTA** Mannerheim

*plana* (Gyll.)—Sleights (H.B.).

# **THECTURA** Thomson, C. G.

*cuspidata* (Er.)—Scarborough (R.L.); Sleights (H.B.).

# **PHYTOSUS** Curtis

*spinifer* Curt.—Scarborough, 1 specimen among sea-weed at base of cliffs (H.J.B.).

# **LEPTUSA** Kraatz

*fumida* (Er.)—Fairly common.

*ruficollis* (Er.)—Fairly common.

# **BOLITOCHARA** Mannerheim

*lucida* (Grav.)—Scarborough (R.L.).

*obliqua* Er.—Raincliffe Wood (W.C.H.); Goathland, Sleights (H.B.).

# **AUTALIA** Samouelle

*impressa* (Oliv.)—Common.

*rivularis* (Grav.)—Common.

**CORDALIA** Jacobs*obscura* (Grav.)—Fairly common.**FALAGRIA** Samouelle*sulcata* (Payk.)—Common.**MYRMECOPORA** Saulcy*sulcata* (Kies.)—Cornelian Bay (T.W.).**TACHYUSA** Erichson*atra* (Grav.)—Scarborough (R.L.); Scalby Beck (G.B.W.).*leucopus* (Marsham)—Fairly common.*umbratica* Er.—Ravenscar, in moss (G.B.W.).*constricta* Er.—Forge Valley (H.C.H.); Scarborough (R.L.).**GNYPETA** Thomson, C. G.*carbonaria* (Mann.)—Fairly common and widely distributed.*coerulea* (Sahlb. C.R.)—Rare; Scalby Beck (W.H.).**CALLICERUS** Gravenhorst*obscurus* Grav.—Scarborough (R.L.); Filey (E.C.H.).**AMISCHA** Thomson, C. G.*analisis* (Grav.)—Common.*cavifrons* Sharp—Rare; Sherburn flood-refuse (G.B.W.).**NOTOTHECTA** Thomson, C. G.*flavipes* (Grav.)—Barns Cliff, Langdale, common in nests of **Formica***rufa* (G.B.W.); Helwath Beck (H.B.).*anceps* (Er.)—With the last, but not so common.**SIPALIA** Mulsant & Rey*circellaris* (Grav.)—Common.**ATHETA** Thomson, C. G.**S. HYDROSMECTA** Thomson, C. G.*delicatula* (Sharp)—Rare; Scarborough (R.L.).*fragilis* (Kr.)—Rare; Scarborough (R.L.).**S. DILACRA** Thomson, C. G.*luteipes* (Er.)—Cornelian Bay, on damp ground (C.E.S.).**S. GLOSSOLA** Fowler*gregaria* (Er.)—Common.**S. ALOCONOTA** Thomson, C. G.*currax* (Kr.)—Not uncommon; Hilla Green (G.B.W.); Scalby Beck (G.B.W., C.E.S.).*cambrica* (Woll.)—Hilla Green, not uncommon in shingle (G.B.W.).*sulcifrons* (Steph.)—Forge Valley, in moss (G.B.W.).*insecta* (Thoms., C. G.)—Filey (E.C.H.).**S. AGAPHYGRA** Tottenham*luridipennis* (Mann.)—Scarborough (C.E.S.).**S. BRUNDINIA** Tottenham*gyllenhali* (Thoms., C. G.)—Yedingham flood-refuse (G.B.W.).*vaga* (Heer)—Common.*tomlini* Joy—Cornelian Bay (C.E.S.).*malleus* Joy—Sherburn flood-refuse (G.B.W.).*elongatula* (Grav.)—Common.*hygrotopora* (Kr.)—Scarborough (C.E.S.).

- curtipennis* (Sharp)—Yedingham flood-refuse (G.B.W.).  
*islandica* (Kr.)—Sherburn flood-refuse (G.B.W.); Scarborough (C.E.S.).  
*eximia* (Sharp)—Scarborough (R.L.).
- S. HYGROECIA** Mulsant & Rey  
*debilis* (Er.)—Scarborough (R.L.); common in R. Derwent flood-refuse (G.B.W.).  
*britteni* Joy—Abundant in R. Derwent flood-refuse (G.B.W.).
- S. PARAMEOTICA** Ganglbauer  
*complanata* (Mann.)—Scarborough (R.L.).
- S. DRALICA** Mulsant & Rey  
*rigua* Will.—Yedingham flood-refuse, rare (G.B.W.).
- S. OUSIPALIA** Des Gozis  
*caesula* (Er.)—Givendale, in fungi (G.B.W.).
- S. HALOBRECTA** Thomson, C. G.  
*flavipes* Thoms., C. G.—Scarborough, among rotting sea-weed (G.B.W.).
- S. DINARAEA** Thomson, C. G.  
*aequata* (Er.)—Cornelian Bay, Forge Valley (G.B.W.).
- S. PLATARAEA** Thomson, C. G.  
*brunnea* (Fabr.)—Flixton, Hayburn Wyke (G.B.W.).
- S. ENALODROMA** Thomson, C. G.  
*hepatica* (Er.)—Rare; Levisham (M.L.T.).
- S. BESSOBIA** Thomson, C. G.  
*fungivora* Thoms., C. G.—Scarborough (C.E.S.); Raincliffe Wood (G.B.W.).  
*excellens* (Kr.)—Scarborough (G.B.W.).  
*monticola* (Thoms., C. G.)—Cornelian Bay, in rabbit dung (C.E.S.).
- S. ANOPLETA** Mulsant & Rey  
*corvina* (Thoms., C. G.)—Givendale, Raincliffe Wood, in fungi (G.B.W.).
- S. TRAUMOECIA** Mulsant & Rey  
*angusticollis* (Thom., C. G.)—Fairly common.
- S. PHILHYGRA** Mulsant & Rey  
*palustris* (Kies.)—Not uncommon in damp places near Scarborough (G.B.W., C.E.S.).
- S. MICRODOTA** Mulsant & Rey  
*mortuorum* Thoms., C. G.—Sherburn flood-refuse (G.B.W.).  
*amicula* (Steph.)—Common.
- S. ATHETA** s.s. (Ganglbauer)  
*nigricornis* (Thoms., C. G.)—Raincliffe Wood (G.B.W.).  
*gagatina* (Baudi)—Langdale End, in fungi (G.B.W.).  
*sodalis* (Er.)—Givendale, in fungi (G.B.W.); Goathland (H.B.).  
*pallidicornis* (Thoms., C. G.)—Scarborough, in cut grass (G.B.W.).  
*fungicola* (Thoms., C. G.)—Goathland (H.B.).  
*inoptata* (Sharp)—Common near Scarborough (G.B.W.).  
*crassicornis* (Fabr.)—Raincliffe Wood, Langdale End, common in fungi (G.B.W.).

- hybrida* (Sharp)—Sleights (H.B.).  
*trinotata* (Kr.)—Common.  
*triangulum* (Kr.)—Common.  
*britanniae* Bernh.—Sleights, Helwath Beck (H.B.).
- S. HYPATHETA** Fenyès  
*aquatica* (Thoms., C. G.)—Raincliffe Wood (G.B.W.).  
*pertyi* (Heer)—Common.  
*castanoptera* (Mann).—Fairly common.  
*aquatilis* Thoms., C. G.—Hayburn Wyke, Forge Valley (C.E.S.).
- S. LIOGLUTA** Thomson, C. G.  
*hypnorum* (Kies.)—Sleights (H.B.).  
*pagana* (Er.)—Scarborough (R.L.); Yedingham flood-refuse (G.B.W.).  
*longiuscula* (Grav.)—Common.  
*oblongiuscula* (Sharp)—Raincliffe Wood (G.B.W.).
- S. MEGISTA** Mulsant & Rey  
*graminicola* (Grav.)—Common.
- S. THINOBAENA** Thomson, C. G.  
*vestita* (Grav.)—Common on the shore.
- S. DIMETROTA** Mulsant & Rey  
*atramentaria* (Gyll.)—Common.  
*cinnamoptera* (Thoms., C. G.)—Sleights, Goathland (H.B.).  
*marcida* (Er.)—Givendale, in fungi (G.B.W.).
- S. DATOMICRA** Mulsant & Rey  
*arenicola* Thoms., C. G.—Common.  
*zosteræ* (Thoms., C. G.)—Generally distributed.
- S. CHAETIDA** Mulsant & Rey  
*longicornis* (Grav.)—Common.
- S. COPROTHASSA** Thomson, C. G.  
*melanaria* (Mann.)—Scarborough (R.L.); Ravenscar (W.J.F.).  
*sordida* (Marsham)—Common.
- S. ACROTONA** Thomson, C. G.  
*aterrima* (Grav.)—Common.  
*muscorum* (Bris.)—Common.  
*fungi* (Grav.)—Common.  
*clientula* (Er.)—Robin Hood's Bay, Goathland, frequent in moss (H.B.).
- S. AMIDOBIA** Thomson, C. G.  
*talpa* (Heer)—Barns Cliff, Langdale, Silpho Moor, common in nests of *Formica rufa* (G.B.W.); Helwath Beck (H.B.).
- ALIANITA** Thomson, C. G.  
*incana* (Er.)—Scarborough (R.L.).
- THAMIARAÆA** Thomson, C. G.  
*hospita* (Maerk.)—Scarborough (R.L.).
- DRUSILLA** Samouelle  
*canaliculata* (Fabr.)—Common.
- ZYRAS** Stephens  
*humeralis* (Grav.)—Cloughton (E.C.H.); Barns Cliff, in nests of *Formica rufa*, rare (G.B.W.).

**TINOTUS** Sharp*morion* (Grav.)—Common.**PHLOEOPORA** Erichson*testacea* (Mann.)—Common.**ILYOBATES** Kraatz*nigricollis* (Payk.)—Scarborough (T.W.).**CALODERA** Mannerheim*nigrita* Mann.—Scarborough (R.L.).*aethiops* (Grav.)—Very rare; Scarborough (R.L.).*riparia* Er.—Very rare; Scarborough (R.L.).**CHILOPORATA** Strand, E.*longitarsis* (Er.)—Not uncommon near Scarborough (G.B.W.).*rubicunda* (Er.)—Rare; Scarborough (R.L.).**OCALEA** Erichson*picata* (Steph.)—Widely distributed round Scarborough; quite common in carrion traps in Raincliffe Wood (G.B.W.).*rivularis* Mill., L.—Scarborough (W.H.); Raincliffe Wood, in carrion traps (G.B.W.).*badia* Er.—Forge Valley (C.E.S.).**DINARDA** Samouelle*dentata* (Grav.)—Helwath Beck (H.B.).*markeli* Kies.—Raincliffe Wood, sweeping (E.C.H.); Helwath Beck, Barns Cliff, not uncommon in *Formica rufa* nests (G.B.W., H.B.).**MEOTICA** Mulsant & Rey*exilis* (Er.)—Scarborough (R.L.).*pallens* (Redt.)—Scarborough (R.L.).**OCYUSA** Kraatz*incrassata* (Muls. & Rey)—Near Sleights (H.B.).**OXYPODA** Mannerheim*spectabilis* Maerk.—Usually rare; but not uncommon in carrion traps in Raincliffe Wood (G.B.W.).*lividipennis* Mann.—Raincliffe Wood, in carrion traps and moss (G.B.W.).*opaca* (Grav.)—Generally distributed.*longiuscula* (Grav.)—Fairly common and widely distributed.*umbrata* (Gyll.)—Scalby Beck (C.E.S.).*exigua* Er.—Rare; Yedingham flood-refuse (G.B.W.).*alternans* (Grav.)—Fairly common.*haemorrhoea* Mann.—Barns Cliff, Silpho Moor, common in nests of *Formica rufa* (G.B.W.); Helwath Beck (H.B.).*formiceticola* Maerk.—Common with the last.*annularis* Mann.—Local and rare; Scarborough (R.L.); Forge Valley (G.B.W.).**ISCHNOGLOSSA** Kraatz*corticina* (Er.)—Rare; Filey (E.C.H.).**THIASOPHILA** Fairmaire & Laboulbène*angulata* (Er.)—Barns Cliff, Langdale, Silpho Moor, common in nests of *Formica rufa* (G.B.W.); Helwath Beck (H.B.).

**CRATARAEA** Thomson, C. G.*suturalis* (Mann.)—Beckhole (H.B.).**MICROGLOTTA** Kraatz*puncticollis* (Steph.)—Common in nests of small birds; Scarborough (R.L.); Scalby, Thornton-le-Dale (G.B.W.); Wykeham (C.E.S.).**ALEOCHARA** Gravenhorst*curtula* (Goeze)—Common and generally distributed.*moesta* Grav.—Fairly common.*sparsa* Heer—Common.*lanuginosa* Grav.—Common and generally distributed.*villosa* Mann.—Scarborough, in pigeon-cotes (R.L., G.B.W.).*spadicea* Er.—Not uncommon; Scalby Beck (R.L.); 2 in wasps' nests, Forge Valley (A.E.W. and G.B.W.); Cloughton (W.J.F.); in moles' nests, Sherburn (G.B.W.).*ruficornis* Grav.—Rare; Scarborough (R.L.); Raincliffe Wood in carrion traps (G.B.W.); Ravenscar (M.L.T.).*bilineata* Gyll.—Scarborough (C.E.S.).*bipustulata* (L.)—Common.*algarum* Fauv.—Common in rotting sea-weed.*obscura* Grav.—With the last.

## PSELAPHIDAE

**TRIMIUM** Aubé*brevicorne* (Reich.)—Scarborough, in some numbers on North Cliff in moss (T.W. and R.L.).**EUPLECTUS** Leach*duponti* Aubé—Scalby Beck, about 30 specimens in rotten alder stump (R.L.).*bescidicus* Reitt.—Scarborough, under fir and elm bark (R.L.).*piceus* Motsch.—Possibly Scarborough (T.W.), specimens from him were in Dr. P. B. Mason's collection.*sanguineus* Denny—Common in stack-bottoms; Scarborough, Forge Valley (E.C.H., G.B.W.).**BIBLOPORUS** Thomson, C. G.*bicolor* (Denny)—Scarborough, abundant under bark in Raincliffe Wood (R.L.); Forge Valley (W.D.H.).**TRICHONYX** Chaudoir*sulcicollis* (Reich.)—In plenty in moss on the North Cliff, Scarborough (R.L.).**REICHENBACHIA** Leach*impressa* (Panz.)—Forge Valley (H.C.H.); Thornton-le-Dale (E.C.H.).*juncorum* (Leach)—Common.**BRYAXIS** Kugelann*puncticollis* (Denny)—Widely distributed and fairly common.*bulbifera* (Reich.)—Common.*curtisii* (Leach)—Scarborough (R.L.).*macropalpus* (Aubé)—Rare; Scarborough (R.L.).*burrellii* (Denny)—Scarborough (R.L.); Scalby (G.B.W.).

**TYCHUS** Leach**niger** (Payk.)—Common.var. **dichrous** Schm.-Goeb.—Rare; Yedingham flood-refuse (G.B.W.).**PSELAPHUS** Herbst**heisei** Herbst—Scarborough North Cliff, in moss (R.L.); Ringing Keld Bog (E.C.H.).

## CLAVIGERIDAE

**CLAVIGER** Preyssler**testaceus** Preyssl.—Robin Hood's Bay, 2 specimens with **Lasius flavus** (T.S.).

## HISTERIDAE

**ONTHOPHILUS** Leach**striatus** (Forst.)—Fairly common.**ABRAEUS** Leach**globosus** (Hoffm., J. J.)—Scarborough, in rotten ash stumps (R.L.).**ACRITUS** Leconte**nigricornis** (Hoffm., J. J.)—Scarborough, in stack-bottoms near the Mere (R.L.).**SAPRINUS** Erichson**semistriatus** (Scriba)—Common.**aeneus** (Fabr.)—Hackness (E.C.H.).**rugifrons** (Payk.)—Forge Valley, not uncommon (W.C.H.).**GNATHONCUS** du Val[**rotundatus** (Kug.)] var. **nannetensis** Mars.—Forge Valley (W.C.H.).**MYRMETES** Marseul**piceus** (Payk.)—Barns Cliff, in nests of **Formica rufa** (G.B.W.); Helwath Beck (H.B.).**CARCINOPS** Marseul**quattuordecimstriata** (Steph.)—Not scarce in bones at the bone-mill, Scarborough (R.L.).**MICROLOMALUS** Lewis, G.**flavicornis** (Herbst)—Scarborough (R.L.).**HISTER** Linnaeus**unicolor** (L.)—Raincliffe Wood (E.C.H.).**striola** Sahlb., C. R.—Fairly common and widely distributed.**cadaverinus** Hoffm., J. J.—Common.**carbonarius** Hoffm., J. J.—Scarborough (R.L.).**marginatus** Er.—Rare; Raincliffe Wood, 2 in moles' nest (G.B.W.).**bimaculatus** (L.)—Scarborough (R.L., W.P.).**duodecimstriatus** Schr.—Scarborough (E.C.H.); Yedingham flood-refuse (G.B.W.).

## LYCIDAE

\* **DICTYOPTERUS** Latreille**affinis** (Payk.)—Rare; 2 spns. under spruce bark in Raincliffe Wood (A.M.R.).**PLATYCIS** Thomson, C. G.**minuta** (Fabr.)—Scarborough (R.L.); Forge Valley (W.C.H.).



## LAMPYRIDAE

**LAMPYRIS** Geoffroy

**noctiluca** (L.)—Local and gradually diminishing in numbers; Cloughton, Broxa (G.B.W.); Thornton le-Dale (H.C.H.); High Givendale (S.R.).

## CANTHARIDAE

**PODABRUS** Westwood

**alpinus** (Payk.)—Common and generally distributed. The varieties **nitens** (Fabr.) and **enteralis** Er. occur with the type.

**CANTHARIS** Linnaeus

[**abdominalis** Fabr.] var. **cyanea** Curt.—Uncommon and local, but occurs in many wooded valleys, e.g. Hayburn Wyke, Beedale, Fylingdales.

**rustica** Fall.—Fairly common.

**nigricans** (Muell., O. F.)—Common, especially the var. **discoidea** (Steph.).

**pellucida** Fabr.—Common.

**livida** (L.)—Common.

**rufa** (L.)—Rather local; Yedmandale (E.C.H.).

**pallida** Goeze—Common.

**cryptica** Ashe—Raincliffe Wood, Hayburn Wyke (G.B.W.).

**fulvicollis** Fabr.—Robin Hood's Bay (H.B.); Scarborough (R.L.).

**paludosa** Fall.—Local but fairly common in damp places; Forge Valley (G.B.W.); Goathland, Robin Hood's Bay (H.B.).

**METACANTHARIS** Bourgeois

**clypeata** (Ill.)—Common.

**RHAGONYCHA** Eschscholtz

**translucida** Kryn.—Not common; Yedmandale (E.C.H.); Robin Hood's Bay (W.J.F.).

**lutea** (Muell., O. F.)—Local; Littlebeck (M.L.T.); Goathland (R.R.U.K.).

**fulva** (Scop.)—Very common in July.

**testacea** (L.)—Not uncommon and widely distributed.

**limbata** Thoms., C. G.—Common.

**lignosa** (Muell., O.F.)—Common.

**MALTHINUS** Latreille

**flaveolus** (Payk.)—Fairly common.

**MALTHODES** Kiesenwetter

**marginatus** (Latr.)—Common.

**mysticus** Kies.—Local; Langdale End (M.L.T.); Raincliffe Wood (G.B.W.); Helwath Beck (H.B.).

**minimus** (L.)—Common.

**flavoguttatus** Kies.—Helwath Beck (H.B.); Forge Valley (G.B.W.).

**dispar** (Germ.)—Forge Valley (G.B.W.).

[**maurus** (Cast.)] a. **misellus** Kies.—Forge Valley (G.B.W.).

**fibulatus** Kies.—Forge Valley (G.B.W.).

**pumilus** (Bréb.)—Rare; Scarborough (G.B.W.).

## MALACHIIDAE

**MALACHIUS** Fabricius

**bipustulatus** (L.)—Very local; Forge Valley (G.B.W.).

## DASYTIDAE

**DASYTES** Paykull

**aerosus** Kies.—Not common, but widely distributed.

**PHLOIOPHILUS** Stephens

**edwardsii** Steph.—Raincliffe Wood in abundance, by beating oaks (R.L.).

## CLERIDAE

**OPILO** Latreille

**mollis** (L.)—Rare; 1 spn. under spruce bark in Raincliffe Wood (A.M.R.).

**THANASIMUS** Latreille

**formicarius** (L.)—Raincliffe Wood, under oak bark (R.L.); Hayburn Wyke, in dead ash (T.W.); in dead sallows (G.B.W.).

**NECROBIA** Olivier

**ruficollis** (Fabr.)—Scarborough (R.L.).

**violacea** (L.)—Hole of Horcum (H.B.).

**rufipes** (De G.)—Seamer Moor, Flixton (G.B.W.); Scarborough (W.C.H.); Goathland (R.R.U.K.).

## ELATERIDAE

**ADELOCERA** Latreille

**murina** (L.)—Local; Flixton sand-pits (G.B.W.); Forge Valley (E.C.H.).

**ELATER** Linnaeus

**balteatus** (L.)—Local but widely distributed: Cross Cliff (R.L.); Langdale End (W.C.H.); Ellerdale (W.P.); Hole of Horcum, Helwath Beck (H.B.).

**HYPNOIDUS** Stephens

**riparius** (Fabr.)—Common.

**quadripustulatus** (Fabr.)—Fairly common in cut grass at Scalby (G.B.W.).

**dermestoides** (Herbst)—Scarborough (R.L.).

var. **quadriguttatus** Cast.—Scarborough, much commoner than type (R.L.); Filey (E.C.H.).

**MELANOTUS** Eschscholtz

**rufipes** (Herbst)—Not common; Raincliffe Wood (E.C.H., G.B.W.); Langdale End, Beedale (G.B.W.).

**LIMONIUS** Eschscholtz

**aeruginosus** (Ol.)—Not common; Langdale End (W.C.H.).

**minutus** (L.)—Local; Littlebeck (M.L.T.); Langdale End (G.B.W.); Yedmandale (E.C.H.); Robin Hood's Bay (H.B.).

**ATHOUS** Eschscholtz

**hirtus** (Herbst)—Local; Langdale End (M.L.T.); Forge Valley (W.C.H., E.C.H.); Seamer, injurious to barley (A.E.W.), etc.

**vittatus** (Fabr.)—Fairly common.

**haemorrhoidalis** (Fabr.)—Very common.

- bicolor** (Goeze)—Rare; Staintondale (G.B.W.).
- CORYMBITES** Latreille
- pectinicornis** (L.)—Uncommon; Scarborough (W.P.); Goathland (G.B.W.).
- cupreus** (Fabr.)—Common and widely distributed.
- var. **aeruginosus** (Fabr.)—With the type but much less common; Hackness (G.B.W.); Goathland (R.R.U.K.); Gristhorpe Bay (G.B.W.).
- siaelandicus** (Muell., O.F.)—Local; Pickering (Y.N.U. Excn., 1938); Goathland (R.R.U.K.).
- aeneus** (L.)—Uncommon; Hackness (E.C.H.); Ebberston (W.P.).
- incanus** (Gyll.)—Common.
- var. **ochropterus** (Steph.)—With the type but much less common; Langdale End, Lowdales (E.C.H.); Flixton (G.B.W.).
- PROSTERNON** Latreille
- tessellatum** (L.)—Dalby Warren (E.C.H.); Sleights (H.B.).
- AGRIOTES** Eschscholtz
- acuminatus** (Steph.)—Local; Filey (E.C.H.); Hole of Horcum (H.B.).
- pallidulus** (Ill.)—Common.
- sputator** (L.)—Local; Filey, Seamer Moor (E.C.H.); Forge Valley (G.B.W.).
- lineatus** (L.)—Less common than **obscurus**, but widely distributed.
- obscurus** (L.)—Common.
- DALOPHIUS** Eschscholtz
- marginatus** (L.)—Common.
- SERICUS** Eschscholtz
- brunneus** (L.)—Rare; Scarborough (E.G.B.); Staintondale, Saltergate (G.B.W.).
- ADRASTUS** Eschscholtz
- nitidulus** (Marsham)—Common.
- rachifer** (Geoffr. in Fourcr.)—Seamer, common (A.E.W.).
- DENTICOLLIS** Piller & Mitterpacher
- linearis** (L.)—Common.

## EUCNEMIDAE

- DIRHAGUS** Castelnau
- pygmaeus** (Fabr.)—Swept from bracken at Pickering (A.S.).

## TRIXAGIDAE

- TRIXAGUS** Kugelann
- dermestoides** (L.)—Common; Scarborough (R.L.); Forge Valley (G.B.W.); Pickering (M.D.B.).

## BUPRESTIDAE

- APHANISTICUS** Latreille
- pusillus** (Ol.)—Rare; Scarborough, 1 specimen in Harper's Field (R.L.).
- TRACHYS** Fabricius
- troglodytes** Schoenh.—Rare; Scarborough (R.L.).

## DASCILLIDAE

**DASCILLUS** Latreille

**cervinus** (L.)—Rather local; Filey (W.J.C.); Ayton (W.C.H.); Scarborough (W.P.).

**EUBRIA** Germar

**palustris** Germ.—Cornelian Bay, abundant in moss (R.L.).

## HELODIDAE

**HELODES** Latreille

**minuta** (L.)—Common.

**marginata** (Fabr.)—Rather local; but widely distributed.

**MICROCARA** Thomson, C. G.

**testacea** (L.)—Common.

**bohemani** (Mann.)—Local; Thornton-le-Dale (G.B.W.).

**CYPHON** Paykull

**variabilis** (Thunb.)—Common.

var. **nigriceps** Kies.—Biller Howe Dale (G.B.W.).

**ochraceus** Steph.—Biller Howe Dale, Raincliffe Wood (G.B.W.); Fylingdales Moor (H.B.).

**coarctatus** Payk.—Common.

**paykulli** Guér.-Mén.—Rather common and widely distributed.

**PRIONOCYPHON** Redtenbacher

**serricornis** (Muell., P. W. J.)—Scarborough in ants' nests (T.W.).

**HYDROCYPHON** Redtenbacher

**deflexicollis** (Muell., P.W.J.)—Not common, but widely distributed; Langdale End (M.L.T., W.C.H.); Helwath Beck (H.B.); Goathland (R.R.U.K.).

**SCIRTES** Illiger

**hemisphaericus** (L.)—Very local; Scarborough (R.L.).

## DRYOPIDAE

**DRYOPS** Olivier

**ernesti** Des Gozis—Common.

**auriculatus** (Geoffr. in Fourcr.)—Common.

**HELICHUS** Erichson

**substriatus** (Muell., P.W.J.)—Not common; Forge Valley on floating chips (R.L.); Scalby Beck, in moss on timber (R.L.).

**ELMIS** Latreille

[**maugei** Bed. s. **megerlei** Dufts.] ab. **aenea** Muell., P. W. J.—Very common.

**ESOLUS** Mulsant & Rey

**parallelopipedus** (Muell., P. W. J.)—Fairly common.

**LIMNIUS** Illiger

**tuberculatus** Muell., P. W. J.—Fairly common.

**RIOLUS** Mulsant & Rey

**cupreus** (Muell., P.W.J.)—Rare; Scarborough (R.L.); West Ayton (W.C.H.); Langdale End (E.C.H.).

**nitens** (Muell., P. W. J.)—Rare; Scarborough (W.C.H.).

**LATELMIS** Reitter

**volckmari** (Panz.)—Common.

## GEORISSIDAE

**GEORISSUS** Latreille

**crenulatus** (Rossi)—Scalby Beck, abundant in flood-refuse (R.L.).

## HETEROCERIDAE

**HETEROCERUS** Fabricius

**marginatus** (Fabr.)—Scarborough (R.L.); West Ayton (W.C.H.); Scalby Beck (G.B.W.).

## DERMESTIDAE

**DERMESTES** Linnaeus

**maculatus** De G.—Scarborough, abundant (R.L.).

**frischii** Kug.—Scarborough (W.W.F.).

**undulatus** Brahm—Scarborough (R.L.).

**lardarius** L.—Common, sometimes doing great damage.

**ATTAGENUS** Latreille

**pellio** (L.)—Fairly common.

**MEGATOMA** Herbst

**undata** (L.)—Rare; Scarborough (G.B.W.).

**TROGODERMA** Berthold in Latreille

**granaria** Everts—Scarborough, becoming commoner, in stored foods (G.B.W.).

## BYRRHIDAE

**SIMPLOCARIA** Stephens

**semistriata** (Fabr.)—Common.

**CYTILUS** Erichson

**sericeus** (Forst.)—Rather common and widely distributed.

**BYRRHUS** Linnaeus

**fasciatus** (Forst.)—Local; Seamer (A.E.W.); Hutton Buscel, Langdale Rigg (W.C.H.); Goathland (H.B.); near the Falcon Inn (G.B.W.).

**pustulatus** (Forst.)—Rare; Langdale End (W.C.H.).

**pilula** L.—Common.

**SYNCALYPTA** Stephens

**setigera** (Ill.)—Flixton, 1 at roots (G.B.W.).

## OSTOMATIDAE

**TENEBROIDES** Piller & Mitterpacher

**mauritanicus** (L.)—Scarborough in flour stores, common (R.L., G.B.W.).

**THYMALUS** Latreille

**limbatus** (Fabr.)—Very local; Raincliffe Wood (E.C.H.); Forge Valley (G.B.W.).

## BYTURIDAE

**BYTURUS** Latreille

**ochraceus** (Scriba)—Very local; Filey (E.C.H.); Pickering (W.E.S.).

**urbanus** (Lind.)—Very common.

## NITIDULIDAE

**KATERETES** Herbst

*pedicularius* (L.)—Local; Forge Valley (G.B.W.).

*bipustulatus* (Payk.)—Local; Scarborough (R.L.); Forge Valley (G.B.W.); Ebberston (W.P.); Sleights (H.B.). The abs.

*ochraceus* Murray and *suturalis* Murray occur with the type in Forge Valley (G.B.W.).

*rufilabris* Latr.—Local, but widely distributed.

**BRACHYPTERUS** Kugelann

*glaber* (Steph.)—Fairly common round Scarborough.

*urticae* (Fabr.)—Very common.

**LARIA** Scopoli

*dulcamarae* Scop.—Scarborough (J.H.B.).

**MELIGETHES** Stephens

*brevis* Sturm—Forge Valley in some numbers on a limestone hill with *Helianthemum* and other flowers (R.L.); also taken by C.E.S. (1936).

*atratus* (Ol.)—Levisham (W.C.H.); Scarborough (E.G.B.); Pickering. Hayburn Wyke (G.B.W.).

*lumbaris* Sturm—Littlebeck (M.L.T.); Hayburn Wyke, Raincliffe Wood (G.B.W.); Robin Hood's Bay (H.B.).

*fulvipes* Bris.—Raincliffe Wood, Forge Valley, Troutsdale (G.B.W.).

*aeneus* (Fabr.)—Very common.

*viridescens* (Fabr.)—Common.

*brunnicornis* Sturm—Rare; Filey (E.C.H.).

*viduatus* (Heer)—Primrose Valley, on *Geranium sanguineum* (W.J.F., G.B.W.).

*ovatus* Sturm—Plentiful with the last.

*picipes* Sturm—Common.

*obscurus* Er.—Rare; Scarborough (J.H.B.); Sleights (H.B.).

**CARPOPHILUS** Stephens

*ligneus* Murr.—Scarborough in dried figs (E.F.G.).

**NITIDULA** Fabricius

*bipunctata* (L.)—Common.

*flavomaculata* Rossi—Very rare and doubtful as to origin. In rams' horns and in the bone-mill (now disappeared) at Scarborough (R.L.).

**OMOSITA** Erichson

*discoidea* (Fabr.)—Common.

*colon* (L.)—Common.

**EPURAEA** Erichson

*limbata* (Fabr.)—Wykeham (E.G.B.).

*aestiva* (L.)—Common.

*melina* Sturm—Fairly common and widely distributed.

*deleta* Sturm—Common.

*terminalis* (Mann.)—Rare; Raincliffe Wood by beating oaks (R.L., T.W.).

*rufomarginata* (Steph.)—Rare; with the last.

*variegata* (Herbst)—Very rare; Scarborough (R.L.).

**unicolor** (Ol.)—Scarborough (R.L.); Hayburn Wyke (G.B.W.); Sleights (H.B.); Thornton-le-Dale, abundant at sap (W.D.H.).

**angustula** Sturm—Rare; Raincliffe Wood, in burrows of *Trypodendron domesticus* in dead holly (R.L., T.W.).

**pusilla** (Ill.)—Fairly common.

**florea** Er.—Common.

**melanocephala** (Marsham)—Common.

#### **SORONIA** Erichson

**punctatissima** (Ill.)—Raincliffe Wood, plentiful by beating oaks (R.L.); Forge Valley (G.B.W.).

**grisea** (L.)—With the last; also Goathland (H.B.).

#### **CYCHRAMUS** Kugelann

**luteus** (Fabr.)—Common, especially on flowers of hogweed.

#### **LIBRODOR** Reitter

**quadriguttatus** (Fabr.)—Langdale End at sap (W.C.H.); Forge Valley by sweeping (W.D.H.).

**hortensis** (Geoffr. in Fourcr.)—Fairly common.

#### **GLISCHROCHILUS** Reitter

**quadripunctatus** (L.)—Very local; Sleights (H.B.).

#### **PITYOPHAGUS** Shuckard

**ferrugineus** (L.)—Hutton Buscel (E.G.B.).

### RHIZOPHAGIDAE

#### **RHIZOPHAGUS** (Herbst) Illiger

**aeneus** Richt.—Very rare; Scalby Beck flood-refuse (R.L.).

**depressus** (Fabr.)—Very local; Raincliffe Wood (G.B.W.).

**ferrugineus** (Payk.)—East Ayton, common under bark of faggots, Forge Valley, Raincliffe Wood (G.B.W.); Scarborough (C.E.S.).

Mr. E. A. Newbery said that all our specimens are the var. **minor** Méc.

**parallelocollis** Gyll.—Local; West Ayton, in old hawthorn stumps (W.C.H.); Hutton Buscel (E.G.B.); Forge Valley (E.C.H.).

**bipustulatus** (Fabr.)—Common.

**dispar** (Payk.)—Common.

**oblongicollis** Blatch—Scarborough, Langdale End (E.C.H.).

**nitidulus** (Fabr.)—Scarborough, Raincliffe Wood (E.C.H.); Hutton Buscel (E.G.B.).

**cribratus** Gyll.—Rare; Scarborough (R.L.).

### CUCUJIDAE

#### **MONOTOMA** Herbst

**quadrifoveolata** Aubé—Scarborough, in a flour-mill, not scarce (R.L.).

**conicicollis** Aubé—Barns Cliff, abundant in nests of *Formica rufa* (G.B.W.); Helwath Beck (H.B.).

**angusticollis** Gyll.—With the last.

**picipes** Herbst—Common.

**longicollis** Gyll.—Scarborough, abundant in stack bottoms (R.L.); Robin Hood's Bay (H.B.).



**ORYZAEPHILUS** Ganglbauer

**surinamensis** (L.)—Scarborough, in a flour-mill, plentiful (R.L.); in a grocer's shop (G.B.W.).

**LAEMOPHLOEUS** Castelnau

**ferrugineus** (Steph.)—Scarborough, plentiful in flour-mill (R.L.).

## EROTYLIDAE

**TRIPLAX** Herbst

**aenea** (Schall.)—Rare; Scarborough (R.L.); Forge Valley (G.B.W.); Newton Dale, 17/4/53 (A.M.R.).

**DACNE** Latreille

**rufifrons** (Fabr.)—Raincliffe Wood on dry fungus (R.L.); Forge Valley (W.C.H.); Goathland (H.B.).

## CRYPTOPHAGIDAE

**TELMATOPHILUS** Heer

**caricis** (Ol.)—Scarborough (R.L.); Seamer, West Ayton (W.C.H.).

**typhae** (Fall.)—Scarborough (R.L.).

**PARAMECOSOMA** Curtis

**melanocephalum** Herbst—Scalby Beck, abundant in flood-refuse (R.L.).

**HENOTICUS** Thomson, C. G.

**serratus** (Gyll.)—Scarborough, beaten out of holly (R.L.).

**MICRAMBE** Thomson, C. G.

**villosa** (Heer)—Abundant.

**CRYPTOPHAGUS** (Herbst) Paykull

**pubescens** Sturm—Rare; Scarborough (R.L.), in wasps' nest (G.B.W.).

**lapponicus** Gyll.—Very rare; Scarborough (R.L.).

**scanicus** (L.)—Common.

**dentatus** (Herbst)—Common.

**pallidus** Sturm—Rare; Seamer Moor (G.B.W.).

**scutellatus** Newm.—Robin Hood's Bay, very abundant at foot of old haystack, Saltergate (H.B.).

**umbratus** Er.—Beckhole (H.B.); Filey in nest of field-mouse (E.C.H.).

**distinguendus** Sturm—Scarborough in pigeon-cote (G.B.W.).

**badius** Sturm—Scarborough with the last (G.B.W.); Sleights Littlebeck (H.B.).

**cellaris** (Scop.)—Common.

**laticollis** Lucas, H.—Beckhole (H.B.).

**lycoepardi** (Scop.)—Sleights, in **Scleroderma vulgare** (H.B.).

**setulosus** Sturm—Sleights (H.B.).

**ANTHEROPHAGUS** Latreille

**nigricornis** (Fabr.)—Widely distributed, but only in small numbers.

**pallens** (Fabr.)—Cloughton Moor (M.L.T.); Ellerbeck, Goathland, Scarborough (in nest of **Bombus terrestris**) (G.B.W.).

**CAENOSCELIS** Thomson, C. G.

**ferruginea** (Sahlb., C. R.)—Rare; Forge Valley, in moss at roots of ash (T.W.).

**ATOMARIA** Stephens*impressa* Er.—Scalby Beck, abundant in flood refuse (R.L.).*munda* Er.—Scarborough (R.L.).*mesomela* (Herbst)—Filey (M.L.T.); Scarborough, abundant in rushes at the Mere (R.L.); Ringing Keld Bog (E.C.H.); flood-refuse, Yedingham (G.B.W.).*nitidula* Heer—Raincliffe Wood, Ringing Keld Bog (E.C.H.).*fuscata* (Schoenh.)—Common.*atricapilla* Steph.—Common.*bicolor* Er.—Common.*peltata* Kr.—Rare; Scarborough (R.L.).*fuscipes* (Gyll.)—Common.*pusilla* (Payk.)—Fairly common and widely distributed.*?versicolor* Er.—R. Lawson recorded this from Scarborough, but E. A. Newbery (E.M.M. 1917, p. 126) says all British reputed examples of this species were wrongly identified; probably *morio* Kol.*apicalis* Er.—Scarborough, in cut grass, not uncommon (G.B.W.); Saltergate (H.B.).*ruficornis* (Marsham)—Local; Scarborough (C.E.S.); Robin Hood's Bay, Beckhole, Saltergate (H.B.).*analis* Er.—Common.*gibbula* Er.—Scarborough, in wet moss on the moors, not plentiful (R.L.).*umbrina* (Gyll.)—Scarborough (R.L.).*nigriventris* Steph.—Very local; Scarborough (R.L.).*linearis* Steph.—Local; Forge Valley (sweeping), Sherburn, Yedingham in flood-refuse (G.B.W.).*alpina* Heer—Rare; Scarborough, in stack-bottoms at the Mere (R.L.).*finetarii* (Herbst)—Scarborough (R.L.); Flamborough (T.V.W.).**OOTYPUS** Ganglbauer*globosus* (Waltl)—Rare; Scarborough (R.L.).**EPHISTEMUS** Stephens*globulus* (Payk.)—Common.**PHALACRIDAE****PHALACRUS** Paykull*coruscus* (Panz.)—Very local; Scarborough (R.L.).*substriatus* Gyll.—Rare; Ringing Keld Bog in wet moss (R.L.). During the last week of July and the first week of August, in numbers on bog asphodel at the top of Cloughton Bank.**LATHRIDIIDAE****LATHRIDIUS** Herbst*lardarius* (De G.)—Very common.*nodifer* Westw.—Very common.*bergrothi* Reitt.—Scarborough (G.B.W.).**ENICMUS** Thomson, C. G.*minutus* (L.)—Very common.

*transversus* (Oliv.)—Very common.

*histrio* Joy—Common and generally distributed.

*testaceus* (Steph.)—Filey (E.C.H.).

**CARTODERE** Thomson, C. G.

*filiformis* (Gyll.)—Very rare; Scarborough (R.L.).

*ruficollis* (Marsham)—Local; Scarborough (R.L.); West Ayton (G.B.W.); Beckhole, Saltergate (H.B.).

**CORTICARIA** Marsham

*pubescens* (Gyll.)—Uncommon.

*crenulata* (Gyll.)—West Ayton (W.C.H.).

*serrata* (Payk.)—Filey (E.C.H.); Scalby (G.B.W.).

*elongata* (Gyll.)—Common.

*ferruginea* Marsham—Sawdon Dale (G.B.W.).

**CORTICARINA** Reitter

*gibbosa* (Herbst)—Common.

*similata* (Gyll.)—Sleights (H.B.).

*fuscata* (Gyll.)—Common.

MYCETOPHAGIDAE

**PSEUDOTRIPHYLLUS** Reitter

*suturalis* (Fabr.)—Local; Scarborough (R.L.); Seamer (W.C.H.).

**TRIPHYLLUS** Latreille

*bicolor* (Fabr.)—Very local; Scarborough (R.L.).

**LITARGUS** Erichson

*connexus* (Geoffr. in Fourcr.)—Raincliffe Wood (K.M., G.B.W.).

**MYCETOPHAGUS** Hellwig

*quadripustulatus* (L.)—Fairly common.

**TYPHAEA** Stephens

*stercorea* (L.)—Common.

COLYDIIDAE

**ANOMMATUS** Wesmael

*duodecimstriatus* (Muell., P. W. J.)—Rare; Scarborough, in stack bottom at the Mere (R.L.).

**CERYLON** Latreille

*histeroides* (Fabr.)—Widely distributed but not common.

*ferrugineum* Steph.—Very local; Sawdon Dale, common under bark (G.B.W.).

ENDOMYCHIDAE

**MYCETAEA** Stephens

*hirta* (Marsham)—Local; Scarborough in stack bottoms (R.L.); Beckhole (H.B.).

**ENDOMYCHUS** Panzer

*coccineus* (L.)—Widely distributed but not common.

COCCINELLIDAE

**SUBCOCCINELLA** Guérin-Ménéville

*vigintiquatuor punctata* (L.)—Local; Filey, common (G.B.W.); Scarborough (E.G.B.); Pickering (M.D.B.).

**COCCIDULA** Kugelann*rufa* (Herbst)—Fairly common.**RHYZOBIOUS** Stephens*litura* (Fabr.)—Fairly common and widely distributed.**SCYMNUS** Kugelann*auritus* Thunb.—Scarborough (R.L.); Sleights (H.B.).*suturalis* Thunb.—Common.var. *limbatus* Steph.—Common.*rubromaculatus* (Goeze)—Scarborough (R.L.).*redtenbacheri* Muls.—Very rare; Scarborough (T.W.).**HYPERASPIS** Redtenbacher*reppensis* (Herbst)—Local; Scalby Beck, abundant in flood-refuse (R.L.); Cloughton Moor (G.B.W.); Fylingdales Moor (H.B.).**HIPPODAMIA** Faldermann*tredecimpunctata* (L.)—Rare; Filey, 1 on sands (W.J.F.); 1 at Scalby (R.L.).**ADONIA** Mulsant*variegata* (Goeze.)—Rare; Filey (W.W.F.); Newton Dale, 17/4/53 (A.M.R.).**ANISOSTICTA** Duponchel*novemdecimpunctata* (L.)—Rare; Scarborough (E.C.H.); Primrose Valley, Filey (G.B.W.); Throxenby Mere (A.S.).**APHIDEITA** Weise*obliterata* (L.)—Very common.**ADALIA** Mulsant*decempunctata* (L.)—Abundant and very variable.*bipunctata* (L.)—Very common and variable.**COCCINELLA** Linnaeus*septempunctata* (L.)—Very common.*undecimpunctata* (L.)—Common.*hieroglyphica* (L.)—Common on heather; black form common.**MYRRHA** Mulsant*octodecimguttata* (L.)—Fairly common.**PSYLLOBORA** Chevrolat*vigintiduopunctata* (L.)—Common.**CALVIA** Mulsant*quattuordecimguttata* (L.)—Common.**NEOMYSIA** Cowley*oblongoguttata* (L.)—Common on pines.**ANATIS** Mulsant*ocellata* (L.)—Fairly common on pines.**CHILOCORUS** Leach*renipustulatus* (Scriba)—Local; Levisham (W.C.H.); Hole of Horcum (H.B.).*bipustulatus* (L.)—Fairly common and widely distributed.**EXOCHOMUS** Redtenbacher*quadripustulatus* (L.)—Local; Scarborough (R.L.).

## SPHINDIDAE

**SPHINDUS** Chevrolat

**dubius** (Gyll.)—Hutton Buscel, on fungus on stumps of felled oaks, not scarce (R.L.).

## ASPIDIPHORIDAE

**ASPIDIPHORUS** Sturm

**orbiculatus** (Gyll.)—Littlebeck (M.L.T.); Raincliffe Wood (R.L.).

## CIIDAE

**CIS** Latreille

**nitidus** (Fabr.)—Goathland (H.B.).

**boleti** (Scop.)—Very common.

**bidentatus** (Ol.)—Scarborough (R.L.).

**ENNEARTHRON** Mellié

**affine** (Gyll.)—Scarborough (R.L.).

**OCTOTEMNUS** Mellié—

**glabriculus** (Gyll.)—Common and widely distributed.

## LYCTIDAE

**LYCTUS** Fabricius

**brunneus** Steph.—Egton Bridge, several in house (G.B.W.).

**fuscus** (L.)—Scarborough, in oak book shelves (G.B.W.).

## BOSTRICHIDAE

**DINODERUS** Stephens

**minutus** (Fabr.)—Scarborough, introduced in bamboos (G.B.W.); one specimen in the house, Scarborough, 12/53 (A.M.R.).

**RHIZOPERTHA** Stephens

**dominica** (Fabr.)—Scarborough, abundant in flour-mill (R.L.); common in flour in store (G.B.W.).

## ANOBIIDAE

**HEDOBIA** Latreille

**imperialis** (L.)—Scarborough, by beating hedges (R.L.).

**GRYNOBIUS** Thomson, C. G.

**excavatus** (Kug.)—Local but widely distributed.

**DRYOPHILUS** Chevrolat

**pusillus** (Gyll.)—Cloughton Bank, common in cut larch-tops, Raincliffe Wood (G.B.W.).

**ERNOBIUS** Thomson, C. G.

**nigrinus** (Sturm)—Rare, 2 specimens on windblown pine on Cloughton Bank (G.B.W.).

**mollis** (L.)—Filey (W.J.F.); Seamer Moor, Raincliffe Wood, by beating dead timber (G.B.W.).

**STEGOBIUM** Motschulsky

**paniceum** (L.)—Scarborough (E.C.H., G.B.W.).

**ANOBIUM** Fabricius

**punctatum** (De G.)—Common.

**PTILINUS** Mueller, O. F.

**pectinicornis** (L.)—Uncommon; Forge Valley (G.B.W.); Scarborough (E.F.G.).

## PTINIDAE

**TRIGONOGENIUS** Solier

**globulus** Sol.—Common in dried figs, Scarborough (E.F.G.).

**NIPTUS** Boieldieu

**hololeucus** (Fald.)—Widely distributed.

**TIPNUS** Thomson, C. G.

**unicolor** (Pill. & Mitt.)—Scarborough, abundant in pigeon-cotes (R.L., G.B.W.).

**PTINUS** Linnaeus

**fur** (L.)—Scarborough, in wood at Museum (E.C.H.); abundant in pigeon-cotes (R.L., G.B.W.).

**tectus** Boield.—Common in stored foods.

## OEDEMERIDAE

**NACERDES** Faldermann

**melanura** (L.)—Filey (W.C.H., E.C.H.).

**OEDEMERA** Olivier

**nobilis** (Scop.)—Ramsdale, Robin Hood's Bay (J.M.B.).

## PYTHIDAE

**RABOCERUS** Mulsant & Rey

**foveolatus** (Ljungh)—Rare; Raincliffe Wood by beating oak trees (R.L.).

**SALPINGUS** Illiger**S. SPHAERISTES** Stephens

**castaneus** (Panz.)—Scarce; West Ayton (W.C.H.); Seamer Moor (G.B.W.); Goathland (H.B.).

**VINCENZELLUS** Reitter

**viridipennis** (Latr.)—Fairly common and widely distributed.

**RHINOSIMUS** Latreille

**ruficollis** (L.)—Fairly common and widely distributed.

**planirostris** (Fabr.)—Common.

## PYROCHROIDAE

**PYROCHROA** Geoffroy

**serraticornis** (Scop.)—Common and widely distributed.

## ANTHICIDAE

**NOTOXUS** Geoffroy

**monoceros** (L.)—Very local; Flixton sand-pits, several, 1 black variety (G.B.W.).

**ANTHICUS** Paykull

**humilis** Germ.—Very rare; Scarborough (R.L.).

**floralis** (L.)—Common.

**quisquilius** Thoms., C. G.—East Ayton (G.B.W.).

**instabilis** Schm.—Very rare; Scarborough (R.L.).

## MELOIDAE

## MELOE Linnaeus

**proscarabaeus** (L.)—Very local; Flamborough (T.S.); Fylingdales Moor (M.L.T.); Hole of Horcum 1938 (Y.N.U. Excn.); Scarborough (E.C.H.); Yedmandale (W.P.).

**violaceus** Marsham—Very local; with much the same localities as the last.

## RHIPIPHORIDAE

## METOECUS Dejean

**paradoxus** (L.)—Rare; Raincliffe Wood, in wasps' nests (R.L.); Forge Valley (G.B.W. and A.E.W.).

## MORDELLIDAE

## MORDELLISTENA Costa, A.

**pumila** (Gyll.)—Flixton sandpit (W.D.H.).

## ANASPIS Mueller, O. F.

**rufilabris** Gyll.—Common.

**frontalis** (L.)—Local.

**regimbarti** Schilsky—Common.

**lurida** Steph.—Very local; Forge Valley (G.B.W.).

**humeralis** Fabr.—Very local; Forge Valley (G.B.W.).

**maculata** Geoffr. in Fourcr.—Common.

## SERROPALPIDAE

## TETRATOMA Fabricius

**fungorum** Fabr.—Local; Forge Valley (G.B.W.); Raincliffe Wood in polypori on birch, larvae in great abundance about Christmas (R.L.).

**desmarestii** Latr.—Very local; Raincliffe Wood, abundant on dead oak branches about October 8th, also in June (R.L.).

**ancora** Fabr.—Very local; abundant with the last (R.L.).

## ORCHESIA Latreille

**micans** (Panz.)—Very Local; Scarborough, abundant on fungus on ash (R.L.); Helwath Beck (H.B.).

**minor** Walk.—Very local; Raincliffe Wood, abundant in summer by beating oaks, Pickering (R.L.).

**undulata** Kr.—Very local; Raincliffe Wood, abundant under dead holly bark (R.L.); Haugh Rigg, Pickering (M.D.B.).

## ABDERA Stephens

**flexuosa** (Payk.)—Raincliffe Wood, abundant in fungus on alder (R.L.); Sleights, Helwath Beck, abundant (H.B.).

## MELANDRYA Fabricius

**caraboides** (L.)—Very rare; Hole of Horcum, 1 drowned in stream (H.B.).

## OSPHYA Illiger

**bipunctata** (Fabr.)—Very rare; Scarborough (G.B.W.).

## LAGRIIDAE

## LAGRIA Fabricius

**hirta** (L.)—Scarborough (R.L.); Hayburn Wyke (G.B.W.); Forge Valley (G.B.W., A.M.R.).



## ALLECULIDAE

**ISOMIRA** Mulsant

**murina** (L.)—Rare; Hayburn Wyke (G.B.W.); Castle Hill, Scarborough (W.D.H.).

## TENEBRIONIDAE

**BLAPS** Fabricius

**mortisaga** (L.)—Rare; East Ayton (A.M.R.).

**mucronata** Latr.—Fairly common and widely distributed.

**PHYLAN** Stephens

**gibbus** (Fabr.)—Rare; Cayton Bay, 1 specimen (A.M.R.).

**CRYPTICUS** Latreille

**quisquilius** (L.)—Rare; Flixton sandpits, at plant roots (W.J.F., G.B.W., and W.D.H.).

**SCAPHIDEMA** Redtenbacher

**metallicum** (Fabr.)—Local; Hackness (E.C.H.); Scarborough, Yedingham in flood-refuse (G.B.W.).

**ALPHITOPHAGUS** Stephens

**bifasciatus** (Say)—Very local; Scarborough (R.L.).

**GNATHOCERUS** Thunberg

**cornutus** (Fabr.)—Scarborough (R.L., E.A.W.).

**TRIBOLIUM** Macleay

**castaneum** (Herbst)—Common and widely distributed.

**confusum** du Val—Very local; Scarborough, abundant in a flour store (G.B.W.).

**PALORUS** Mulsant

**ratzeburgi** (Wissm.)—Scarborough (R.L.).

**subdepressus** Woll.—Scarborough (R.L.).

**ALPHITOBIUS** Stephens

**diaperinus** (Panz.)—Abundant; Scarborough (R.L.).

**laevigatus** (Fabr.)—Abundant; Scarborough (R.L.).

**HYPOPHLOEUS** Fabricius

**bicolor** (Ol.)—Deepdale, Scarborough, common (A.E.W.); Forge Valley under elm bark, 15/4/53 (A.M.R.).

**TENEBRIO** Linnaeus

**molitor** (L.)—Fairly common.

**obscurus** Fabr.—Uncommon; East Ayton (A.M.R.).

**CYLINDRONOTUS** Faldermann

**laevioctostriatus** (Goeze)—Cloughton (E.C.H.); Hayburn Wyke (G.B.W.).

## SCARABAEIDAE

**TYPHAEUS** Leach

**typhoeus** (L.)—Local on sandy places on the moors.

var. **pumilus** (Marsham)—Ellerbeck (R.R.U.K.).

**GEOTRUPES** Latreille

**mutator** (Marsham)—Very local; Flamborough, fairly common (E.B.W., T.S.).

**spiniger** (Marsham)—Common.

**tercorarius** (L.)—Much less common, but widely distributed.

*stercorosus* (Scriba)—Common.

*vernalis* (L.)—Local; Scarborough (E.G.B.); Langdale End (G.B.W.).

#### APHODIUS Illiger

*erraticus* (L.)—Local; Pickering (M.D.B.).

*subterraneus* (L.)—Local; Ebberston (W.P.).

*fossor* (L.)—Common.

*haemorrhoidalis* (L.)—Local; Scarborough (T.S.).

*luridus* (Fabr.)—Common.

var. *gagates* Muell.—Langdale End (W.C.H.); Seamer Moor (G.B.W.).

*depressus* (Kug.)—Fairly common.

ab. *atramentaria* Er.—Goathland (R.R.U.K.).

ab. *nigripes* Steph.—Bempton (E.C.H.).

*rufipes* (L.)—Common.

*contaminatus* (Herbst)—Common.

*prodromus* (Brahm)—Common.

*sphacelatus* (Panz.)—Common.

*merdarius* (Fabr.)—Fairly common.

*tristis* Zenk.—Very local; Pickering (M.D.B.).

*fimetarius* (L.)—Common.

*aestivalis* Steph.—Local; but widely distributed.

*scybalarius* (Fabr.)—Local; Filey (E.C.H.); Scarborough (E.G.B.).

*lapponum* Gyll.—Local on the high moors; Goathland (Y.N.U. Excn., 1903); Scalby High Moor (G.B.W.).

*ater* (De G.)—Common.

*borealis* Gyll.—Fairly common on the moors; Seamer Moor, Langdale End (G.B.W.).

*constans* Duft.—Fairly common and widely distributed on the moors.

*tenellus* Say—As the last.

*rufescens* Fabr.—Not common; Scarborough (C.W.R.).

*granarius* (L.)—Not common; Harwood Dale (G.B.W.).

#### OXYOMUS Castelnau

*sylvestris* (Scop.)—Rare; Scarborough (R.L.).

#### PSAMMOBIUS Heer

*sulcicollis* (Ill.)—Rare; Scarborough (R.L.).

#### AEGIALIA Latreille

*sabuleti* (Panz.)—Local; Scarborough (R.L.); Langdale End (G.B.W.); Pickering (M.D.B.).

*arenaria* (Fabr.)—Cayton Bay (A.M.R.).

#### TROX Fabricius

*scaber* (L.)—Rare; Scarborough (R.L.).

#### SERICA Macleay

*brunnea* (L.)—Fairly common and widely distributed.

#### AMPHIMALLON Berthold in Latreille

*solstitialis* (L.)—Rare; Scarborough (R.L.); Cloughton (W.J.F.).

#### MELOLONTA Fabricius

*melolontha* (L.)—Fairly common and widely distributed.

ab. *albida* Muls.—Beckhole (J.W.S.).

**PHYLLOPERTHA** Stephens

*horticola* (L.)—Local; Cloughton (R.J.F.); Hackness (E.C.H.).

**CETONIA** Fabricius

*aurata* (L.)—Langdale End, -/6/49 (A.M.R.); Hunmanby (G.B.W.); West Ayton, 6/52 (A.M.R.).

## LUCANIDAE

**DORCUS** Macleay

*parallelopipedus* (L.)—Langdale, -/6/49 (A.M.R.).

**SINODENDRON** Schneider

*cylindricum* (L.)—Fairly common.

## CERAMBYCIDAE

**ASEMUM** Eschscholtz

*striatum* (L.)—Woods above Wykeham (G.B.W., leg. M. Pittam); Cloughton (A.M.R.); Newton Dale, 7/53 (A.M.R.). This beetle is extending its range in the district, probably as a result of afforestation.

**TETROPIUM** Kirby, W.

*gabrielii* Weise var. *crawshayi* Sharp—Sleights, in abundance in all stages, in pine and larch stumps and fallen timber (H.B.); Hackness (G.B.W.).

**RHAGIUM** Fabricius

*bifasciatum* Fabr.—Common and widely distributed.

*mordax* (De G.)—Local, but not uncommon.

**STENOCORUS** Geoffroy

*meridianus* (L.)—Local and uncommon; Pickering (Y.N.U. Excn., 1938); Langdale End (E.A.W.).

**GRAMMOPTERA** Serville

*ruficornis* (Fabr.)—Common.

**ALOSTERNA** Mulsant

*tabacicolor* (De G.)—Common in Forge Valley (G.B.W.); Goathland (H.O.); Beckhole (H.B.).

**STRANGALIA** Serville

*quadrifasciata* (L.)—Littlebeck, Helwath Beck, fairly common on alder (H.B.); Thornton-le-Dale, 1 spn., 8/51 (A.M.R.).

*maculata* (Poda)—Fairly common and widely distributed.

*melanura* (L.)—Very local; Pickering (M.D.B.); Forge Valley (A.M.R.).

**AROMIA** Serville

*moschata* (L.)—Very rare; Langdale End (E.C.H.).

**PHYMATODES** Mulsant

*testaceus* (L.)—Scarborough, in a timber-yard in imported timber (E.F.G.).

**CLYTUS** Laicharting

*arietis* (L.)—Fairly common and widely distributed.

**POGONOCHERUS** Zetterstedt

*hispidulus* (Pill. & Mitt.)—Not common, but widely distributed; West Ayton (W.C.H.); Scarborough (R.L.); Forge Valley,

Hayburn Wyke (G.B.W.); Hole of Horcum (H.B.); Goathland (H.O.).

*hispidus* (L.)—Very local; Scarborough (R.L.); West Ayton (W.C.H.); Wykeham (A.M.R.).

*fasciculatus* (De G.)—Very local; Sleights (H.B.).

#### LEIOPUS Serville

*nebulosus* (L.)—Local; Forge Valley (W.P.); Beckhole, Hole of Horcum (H.B.); Raincliffe Wood (W.D.H.).

#### SAPERDA Fabricius

*populnea* (L.)—Hole of Horcum; abundant, Helwath Beck, galls and larvae plentiful (H.B.).

*scalaris* (L.)—Rare; Cross Cliff (R.L.); Scarborough (R.L.); Seamer, Hackness (G.B.W.).

*carcharias* (L.)—Hackness, 1 spn. (A.M.R.). The record for Crosscliff (T.W.) given in Fowler, Coleoptera of the British Islands, Vol. IV, p. 252, was in error and should be deleted.

#### STENOSTOLA Mulsant

*ferrea* (Schr.)—Very rare; Beckhole, 1 spn. (H.B.).

### CHRYSOMELIDAE

#### DONACIA Fabricius

*clavipes* Fabr.—Scarborough Mere, 2 spns., 11/6/43 (T.S.).

*crassipes* Fabr.—Very local; Scarborough Mere (T.S.).

*versicolore*a (Brahm)—Very local; Randy Mere, Goathland (H.B.).

*aquatica* (L.)—Cornelian Bay (R.L.).

[*vulgaris* Zschach—Occurs just outside our area at Bridlington and Arncliffe Wood.]

*simplex* Fabr.—Forge Valley (W.C.H., E.C.H.); Levisham, Fen Bog, Goathland (H.B.).

#### PLATEUMARIS Thomson, C. G.

*discolor* (Panz.)—An upland species, associated with *Eriophorum-Sphagnum* bogs. Goathland (H.O.); Helwath Beck, Hole of Horcum, Fen Bog, Fylingdales Moor (H.B.); found in a lowland locality at Scarborough Mere (G.B.W.).

*sericea* (L.)—Common and very variable in colour.

#### ORSODACNE Latreille

*cerasi* (L.)—Very local; Forge Valley, common (G.B.W.).

ab. *glabrata* (Fabr.)—Fairly common with the type.

#### ZEUGOPHORA Kunze

*subspinosa* (Fabr.)—Very local; Langdale End, common (E.C.H.).

#### LEMA Fabricius

*cyanella* (L.)—Newton Dale, about 1½ miles above Pickering, common on thistles (G.B.W.).

*lichenis* Voet—Fairly common.

*melanopa* (L.)—Not common; Forge Valley (W.C.H.); Filey (W.W.F.); Sleights (H.B.); Yedingham flood-refuse (E.F.G.).

#### CLYTURA Fabricius

*quadipunctata* (L.)—Local in nests of *Formica rufa*; Barns Cliff, Langdale (G.B.W.); Helwath Beck (H.B.).

**CRYPTOCEPHALUS** Geoffroy

*aureolus* Suffr.—Above Pickering (M.D.B.).

*hypochaeridis* (L.)—Pickering (A.S.).

*moraei* (L.)—Pickering (M.D.B.).

*labiatus* (L.)—Not common, but widely distributed; Seamer Moor, abundant on birch (G.B.W.).

**CHRYSOLINA** Motschulsky

*staphylaea* (L.)—Very common and generally distributed.

*oricalcia* (Muell., O.F.) var *hobsoni* Steph.—West Ayton (W.C.H.).

*brunsvicensis* (Grav.)—Forge Valley, in plenty on ragwort (R.L.); Pickering, common on *Hypericum* (G.B.W.).

*hyperici* (Forst.)—As the last.

*varians* (Schall.)—Forge Valley (W.C.H.); near Pickering, in hundreds (G.B.W.).

*polita* (L.)—Common and generally distributed.

**GASTROPHYSA** Chevrolat

*viridula* (De G.)—Local and not common; Scarborough (R.L.).

*polygona* (L.)—Common.

**PHAEDON** Latreille

*cochleariae* (Fabr.)—Common and widely distributed.

*armoraciae* (L.)—Goathland (R.R.U.K.).

*tumidulus* (Germ.)—Very common; at times a pest on celery.

**HYDROTHASSA** Thomson, C. G.

*aucta* (Fabr.)—Local; Throxenby, cut grass, Yedingham, flood-refuse, common (G.B.W.); Sleights (H.B.).

*marginella* (L.)—Common and widely distributed.

**PRASOCURIS** Latreille

*junci* (Brahm)—Rather common and widely distributed.

*phellandrii* (L.)—Common.

**CHRYSOMELA** Linnaeus

*populi* L.—Somewhat local, but often common.

**PHYTODECTA** Kirby, W.

*olivacea* (Forst.)—Not common; Littlebeck (M.L.T.).

*pallida* (L.)—Widely distributed and often common.

**PHYLLODECTA** Kirby, W.

*vulgatissima* (L.)—Not common; Scarborough (R.L.).

*vitellinae* (L.)—Very common.

*laticollis* Suffr.—Rare; Forge Valley (G.B.W.).

**TIMARCHA** Latreille

*goettingensis* (L.)—Local; Forge Valley (W.P.).

**PYRRHALTA** Joannis

*viburni* (Payk.)—Very local; Raincliffe Wood (R.L.); Forge Valley (G.B.W.).

**GALERUCELLA** Crotch

*lineola* (Fabr.)—Forge Valley, Throxenby Mere (G.B.W.); Yedingham flood-refuse (E.F.G.).

*calmariensis* (L.)—Local; Filey (W.W.F.); Throxenby Mere (G.B.W.).

*tenella* (L.)—Fairly common.

*nymphaeae* (L.)—Throxenby Mere (G.B.W.); West Ayton, 7/51 (A.M.R.).

#### **GALERUCA** Geoffroy

*tanacetii* (L.)—Very local; Langdale End, Filey (W.C.H.); May Moss (E.A.W.).

#### **LOCHMAEA** Weise

*capreae* (L.)—Local; Levisham (W.C.H.); Helwath Beck, plentiful on *Salix* (H.B.).

*suturalis* (Thoms., C. G.)—Common on the moors.

var. *nigrata* Weise—Fairly common.

*crataegi* (Forst.)—Uncommon; Ganton (R.L.); Levisham (M.L.T.).

#### **PHYLLOBROTICA** Redtenbacher

*quadrimaculata* (L.)—Throxenby Mere, abundant on skullcap (R.L.); still occurs there (G.B.W.).

#### **LUPERUS** Geoffroy

*longicornis* (Fabr.)—Common and widely distributed.

*flavipes* (L.)—Local; Barns Cliff (M.L.T.); Beckhole (H.B.); Goathland (R.R.U.K.).

#### **SERMYLASSA** Reitter

*halensis* (L.)—Common.

#### **PHYLLOTRETA** Stephens

*vittula* Redt.—Hackness (E.C.H.).

*vittata* (Fabr.)—Forge Valley (G.B.W.).

*memorum* (L.)—Very common.

*undulata* Kutsch.—Very common; these two species often (e.g. 1948) do great damage to turnips.

*tetrastigma* (Com.)—Very local; Beckhole (H.B.).

*flexuosa* (Ill.)—Sherburn flood-refuse (G.B.W.); Filey (E.C.H.); W.D.H. says this is a dark variety of *memorum*.

*ochripes* (Curt.)—Very local; Scarborough (R.L.); Forge Valley (E.C.H.).

*atra* (Fabr.)—Raincliffe Wood (E.C.H.); Forge Valley (G.B.W.); var. *cruciferae* (Goeze)—Hackness, Langdale End (E.C.H.).

*aerea* All.—Very local; Forge Valley (E.C.H.).

*consobrina* (Curt.)—Not uncommon in Forge Valley in September (G.B.W.).

*nodicornis* (Marsham)—Rare; Raincliffe Wood (E.C.H.).

#### **APHTHONA** Chevrolat

*euphorbiae* (Schr.)—Pickering (A.S.).

*cyanella* Redt.—Rare; Forge Valley (G.B.W.).

*coerulea* (Geoff. in Fourcr.)—Locally common; Filey, all specimens with black legs (W.J.F.); Langdale End (E.C.H.); Seamer (W.C.H.).

*herbigrada* (Curt.)—Hayburn Wyke (G.B.W.); Pickering (M.D.B.).

**LONGITARSUS** Berthold in Latreille

**ochroleucus** (Marsham)—Uncommon; Cloughton (E.C.H.); Flixton sandpit (W.D.H.).

**jacobaeae** (Waterh., G. R.)—Very common.

**succineus** (Foudr.)—Not uncommon; Hayburn Wyke, Cayton Bay, East Ayton (G.B.W.).

**tabidus** (Fabr.)—Very local; Scarborough (R.L.).

**membranaceus** (Foudr.)—Local; Cloughton (E.C.H.).

**melanocephalus** (De G.)—Common.

**exoletus** (L.)—Local; East Ayton (G.B.W.).

**gracilis** Kutsch.—Rare; Scarborough (E.G.B.).

**ganglbaueri** Heik.—Langdale End (E.C.H.); Forge Valley (G.B.W.).

**suturalis** (Marsham)—Local; Scarborough (E.C.H.).

**atricillus** (L.)—Local; Pickering, East Ayton (G.B.W.).

**sutrellus** (Duft.)—Common and generally distributed.

**holsaticus** (L.)—Rare; near Falcon Inn, 1 specimen in marshy place containing both *Equisetum* and *Pedicularis* (W.J.F.).

**luridus** (Scop.)—Very common.

**brunneus** (Duft.)—Very local; Ravenscar (G.B.W.).

**anchusae** (Payk.)—Very local; Langdale End (E.C.H.).

**HALTICA** (Geoffroy) Illiger

**brevicollis** Foudr.—Ebberton High Moor (W.C.H.); this record is very doubtful.

**oleracea** (L.)—Common and widely distributed.

**pusilla** Duft.—Goathland (R.R.U.K.).

var. **montana** (Foudr.)—Scarborough (E.G.B.); Scalby High Moor (G.B.W.).

**britteni** Sharp—Abundant on heather.

**BATOPHILA** Foudras

**rubi** (Payk.)—Fairly common and widely distributed.

**CREPIDODERA** Faldermann

**transversa** (Marsham)—Common.

**ferruginea** (Scop.)—Common.

**DEROCREPIS** Weise

**rufipes** (L.)—Common.

**HIPPURIPHILA** Foudras

**modeeri** (L.)—Very local; Forge Valley, Throxenby Mere (G.B.W.).

**CHALCOIDES** Foudras

**aurea** (Geoffr. in Fourcr.)—Very local; Scarborough (R.L.).

**fulvicornis** (Fabr.)—Common.

var. **picicornis** Weise—Hayburn Wyke, Forge Valley (G.B.W.).

**aurata** (Marsham)—Uncommon and local.

**MANTURA** Stephens

**obtusata** (Gyll.)—Very local; Scarborough, abundant in flood-refuse (R.L.); Pickering (M.D.B.).

**rustica** (L.)—Scarborough, abundant in moss and flood-refuse (R.L.); fairly common in the district.



*matthewsii* (Curt.)—Forge Valley, abundant on *Helianthemum* (R.L.).

### CHAETOCNEMA Stephens

*concinna* (Marsham)—Common.

*conducta* Motsch.—Very rare and local; Forge Valley, 2 specimens by sweeping in May (E.C.H.); Scarborough district, 1936 (C.E.S.).

*arida* Foudr.—Very rare; Scarborough (R.L.).

*subcoerulea* Kutsch.—Forge Valley (G.B.W.).

*hortensis* (Geoffr. in Fourcr.)—Very local; Scarborough (R.L.).

*sahlbergii* (Gyll.)—Very local; Ringing Keld Bog, in plenty in moss (R.L.).

### SPHAERODERMA Stephens

*testaceum* (Fabr.)—Common.

*rubidum* Graëlls—Common.

### APTEROPEDA Stephens

*orbiculata* (Marsham)—Scalby Beck, abundant in flood-refuse (R.L.); Forge Valley (W.C.H.).

*globosa* (Ill.)—Rare; Scalby Beck, in flood-refuse (R.L.); Forge Valley, Gristhorpe Bay (G.B.W.).

### MNIOPHILA Stephens

*muscorum* (Koch, J. D. W.)—Local; near Raincliffe Wood, in plenty, by beating trees (R.L.); Hay Brow, in moss in the winter (G.B.W.).

### PSYLLIODES Berthold in Latreille

*picina* (Marsham)—Local; Scarborough, 4 by evening sweeping (G.B.W.); Pickering (M.D.B.).

*chrysocephala* (L.)—Local; Scarborough (M.L.T.).

*napi* (Fabr.)—Local but not uncommon.

*cuprea* (Koch, J. D. W.)—Fairly common.

### CASSIDA Linnaeus

*hemisphaerica* Herbst—Rare; Filey, 1 specimen (W.W.F.).

*flaveola* Thunb.—Fairly common.

*vibex* (L.)—Rare; Filey, 1 specimen (W.W.F.).

*rubiginosa* Muell., O. F.—Common.

## BRUCHIDAE

### BRUCHUS Linnaeus

*rufimanus* Boh.—Not uncommon in beans in shops.

*pisorum* (L.)—With the last.

### BRUCHIDIUS Schilsky

*unicolor* (Ol.)—var. *debilis* (Gyll.)—Givendale, East Ayton, by sweeping *Helianthemum* (G.B.W.).

*incarnatus* (Boh.)—Scarborough (R.L.). Introduced.

*fasciatus* (Ol.)—Pickering (M.D.B.).

### CALLOSOBRUCHUS Pic

*chinensis* (L.)—Scarborough (W.W.F., Brit. Col. IV, p. 261).

## PLATYSTOMIDAE

**BRACHYTARSUS** Schoenherr

**nebulosus** (Forst.)—Not common as a rule, but widely distributed; common on fallen firs in Forge Valley, Pickering (G.B.W.).

**CHORAGUS** Kirby, W.

**sheppardi** Kirby, W.—Very rare; Cornelian Bay, 1 specimen by beating hawthorn (R.L.).

## CURCULIONIDAE

**RHINOMACER** Fabricius

**attelaboides** Fabr.—Fairly common by beating male flowers of pine in late May and early June; Wrench Green, Staintondale, Hayburn Wyke (G.B.W.); Raincliffe Wood (E.C.H.).

**LASIORHYNCHITES** Jekel

**ophthalmicus** (Steph.)—Rare; Scarborough (W.W.F., Brit. Col. V, p.126).

**CAENORHINUS** Thomson, C. G.

**nanus** (Payk.)—Not common; Seamer Moor, Raincliffe Wood (G.B.W.).

**longiceps** Thoms., C. G.—Ellerdale (G.B.W.).

**germanicus** (Herbst)—Littlebeck (M.L.T.); Robin Hood's Bay (W.J.F.).

**aeneovirens** (Marsham)—Local; Scarborough (R.L.); Sawdon Dale (G.B.W.); Pickering (Y.N.U. Excn., 1938); Goathland (R.R.U.K.).

**aequatus** (L.)—Wykeham (A.M.R.).

**RHYNCHITES** Schneider

**cupreus** (L.)—Common on mountain ash.

**DEPORAUS** Samouelle

**mannerheimi** Humm.—Very local; Fylingdales, Langdale End (M.L.T.); Pickering (Y.N.U. Excn., 1938); Raincliffe Wood (W.D.H.).

**betulae** (L.)—Common.

**ATTELABUS** Linnaeus

**nitens** (Scop.)—Not common, but widely distributed.

**APION** Herbst

**violaceum** Kirby, W.—Common.

**marchicum** Herbst—Very local; Raincliffe Wood (E.C.H.).

**affine** Kirby, W.—Local; Cloughton (E.C.H.); Beckhole, Robin Hood's Bay (H.B.).

**curtirostre** Germ.—Common.

**aenum** (Fabr.)—Fairly common on Malva, **Ballota**, etc.

**radiolus** Kirby, W.—Common on mallow.

**ulicis** (Forst.)—Common.

**frumentarium** (Payk.)—Fairly common.

var. **brachypterum** Sharp—Scalby, Scalby High Moor (G.B.W.).

s. **cruentatum** Walt., J.—Langdale End (E.C.H.); Raincliffe Wood in moles' nest (G.B.W.).

- var. **desideratum** Sharp—Scarborough (G.B.W.); Robin Hood's Bay (W.J.F.).
- sanguineum** (De G.)—Very local; Goathland (R.R.U.K.).
- rubens** Steph.—Rare; Scarborough (J.W.); Ravenscar (A.E.W.).
- pallipes** Kirby, W.—Common in spring and autumn on **Mercurialis**.
- seniculus** Kirby, W.—Fairly common.
- onopordi** Kirby, W.—Fairly common.
- carduorum** Kirby, W.—Common.
- loti** Kirby, W.—Local; Langdale End (G.B.W.); South Cliff, Scarborough (C.E.S., G.B.W.); Robin Hood's Bay (H.B.).
- meliloti** Kirby, W.—Staxton (G.B.W.).
- tenuis** Kirby, W.—Very local; Filey (W.W.F.).
- striatum** Kirby, W.—Fairly common.
- immune** Kirby, W.—Local; Goathland, Sleights (H.B.).
- gyllenhali** Kirby, W.—Rare; Hackness (E.C.H.).
- pisi** Fabr.—Common.
- aethiops** Herbst—Local; Hunmanby, Hayburn Wyke, common on **Vicia sylvatica** (G.B.W.).
- spencii** Kirby, W.—Local; Beckhole (H.B.); Goathland (R.R.U.K.).
- punctigerum** (Payk.)—Local; Scalby (G.B.W.); Robin Hood's Bay (H.B.).
- reflexum** Gyll.—Yedingham flood-refuse (E.F.G.).
- vorax** Herbst—Local; Forge Valley (G.B.W.).
- ononis** Kirby, W.—Common.
- simile** Kirby, W.—Very local; Filey (G.B.W.).
- viciae** (Payk.)—Common.
- ervi** Kirby, W.—Common.
- subulatum** Kirby, W.—Local; Robin Hood's Bay (H.B.); Pickering (M.D.B.).
- craccae** (L.)—Rare; Langdale End (E.C.H.).
- viens** Herbst—Common.
- dichroum** Bed.—Common.
- nigritarse** Kirby, W.—Somewhat local but widely distributed.
- aestivum** Germ.—Rather local; Sherburn flood-refuse, Flixton sand-pits (G.B.W.); Scarborough (C.E.S.).
- apricans** Herbst—Very common.
- schönherri** Boh.—Very rare; Scarborough, Aug. 1837 (J.W.).
- assimile** Kirby, W.—Fairly common and widely distributed.
- ononicola** Bach—Rare; Raincliffe Wood (E.C.H.).

## OTIORRHYNCHUS Germar

- raucus** (Fabr.)—Very local; Goathland (R.R.U.K.).
- nodosus** (Muell., O. F.)—Very local; Scarborough, in moss on North Cliff (R.L.); West Ayton, 2/9/53 (A.M.R.).
- singularis** (L.)—Very common.
- sulcatus** (Fabr.)—Common, and at times destructive in greenhouses.
- ovatus** (L.)—Local; Ravenscar (Y.N.U. Excn., 1891); Pickering (M.D.B.).
- atroapterus** (De G.)—Langdale End (H.C.H.).

**TRACHYPHLOEUS** Germar*bifoveolatus* (Beck).—Scarborough (W.H.).*aristatus* Gyll.—Scarborough (T.W.).*olivieri* Bed.—Scarborough (W.H.).**PHYLLOBIUS** Schoenherr*viridicollis* (Fabr.).—Locally common.*parvulus* (Ol.).—Common.*virideaeris* (Laich.).—Common.*oblongus* (L.).—Common.*pyri* (L.).—Common.*maculicornis* Germ.—Fairly common.*argentatus* (L.).—Very common.*calcaratus* (Fabr.).—Common.*pomaceus* Gyll.—Very common.**POLYDRUSUS** Germar*pterygomalis* Boh.—Common.*cervinus* (L.).—Common.*pilosus* Gredl.—Common and widely distributed (G.B.W.).*confluens* Steph.—Very local; Scarborough (R.L.); Hole of Horcum (H.B.).*tereticollis* (De G.).—Common.*mollis* (Stroem, H.).—Locally common.**LIOPHLOEUS** Germar*tessulatus* (Muell., O. F.).—Fairly common.**SCIAPHILUS** Schoenherr*asperatus* (Bonsd.).—Common.**BRACHYSOMUS** Schoenherr*echinatus* (Bonsd.).—Cloughton, Yedmandale (E.C.H.).**BARYPITHES** du Val*araneiformis* (Schrunk).—Raincliffe Wood (H.C.H.); Cayton Bay, 1950 (A.M.R.).*pellucidus* (Boh.).—Wykeham, 8/51, Forge Valley (A.M.R.).*sulcifrons* (Boh.).—Scarborough, in moss on North Cliff (R.L.).**STROPHOSOMUS** Schoenherr*melanogrammus* (Forst.).—Very common.*faber* (Herbst).—Scarborough (W.C.H.); Helwath Beck (H.B.).*sus* Steph.—Common on heather.*nebulosus* Steph.—Fairly common and widely distributed.**CNEORRHINUS** Schoenherr*plumbeus* (Marsham).—Local; Thornton-le-Dale (H.C.H.); Forge Valley, Saltergate (G.B.W.); Seamer (A.E.W.).**PHILOPEDON** Stephens*plagiatus* (Schall.).—Cloughton (H.C.H.).**BARYNOTUS** Germar*obscurus* (Fabr.).—Common.[*squamosus* Germ.] var. *schoenherri* (Zett.).—Common in cut meadow grass in the Scarborough district.*moerens* (Fabr.).—Common.

**SITONA** Germar

- regensteiniensis* (Herbst)—Common.  
*striatellus* Gyll.—Common.  
*lineatus* (L.)—Common.  
*suturalis* Steph.—Common.  
*sulcifrons* (Thunb.)—Common.  
*puncticollis* Steph.—Common.  
*lepidus* Gyll.—Common.  
*lineellus* (Bonsd.)—Rare; Filey (W.W.F.).  
*macularius* (Marshall)—Raincliffe Wood (E.C.H.); W. E. Sharp says  
 "Probably *crinitus* but remarkably small".  
*hispidulus* (Fabr.)—Common.  
*cylindricollis* Fahr.—Cornelian Bay (C.E.S.).  
*humeralis* Steph.—Common.

**TANYMECUS** Germar

- palliatius* (Fabr.)—Very local; Scarborough (R.L.); Pickering (M.D.B.).

**TROPIPHORUS** Schoenherr

- terricola* (Newm.)—Common.

**CLEONUS** Schoenherr

- piger* (Scop.)—Local; Scarborough (W.P.); Hackness (E.C.H.).

**MESITES** Schoenherr

- tardii* (Curt.)—Very local; abundant in felled stumps of ash and under bark of various trees; Hayburn Wyke, June 1868 (R.L. and T.W.); still occurs there (G.B.W.) and at Robin Hood's Bay (T.S.).

**BAGOUS** Germar

- limosus* (Gyll.)—Scarborough (W.W.F., Brit. Col. V. 288), recorded as *petro*.  
*subcarinatus* Gyll.—Scarborough (R.L.).

**HYDRONOMUS** Schoenherr

- alismaticus* (Marshall)—Snainton brick-ponds (W.C.H.).

**TANYSPHYRUS** Germar

- lemnæ* (Payk.)—Local; Scarborough (R.L.); Seamer (W.C.H.); Forge Valley, Throxenby Mere (E.C.H.).

**DORYTOMUS** Germar

- taeniatus* (Fabr.)—Common.  
*longimanus* (Forst.)—Scarborough North Cliff (R.L.).  
*tortrix* (L.)—Scarborough (R.L.).  
*melanophthalmus* (Payk.)—Ellerdale, Hayburn Wyke (G.B.W.).  
*rufatus* (Bed.)—Littlebeck (M.L.T.); Sleights (H.B.); Forge Valley, Hayburn Wyke (G.B.W.).

**NOTARIS** Germar

- acidulus* (L.)—Common.  
*aethiops* (Fabr.)—Very rare; Sherburn flood-refuse, 1 specimen (G.B.W.).

**GRYPUS** Germar

- equiseti* (Fabr.)—Common.

**ORTHOCHAETES** Mueller, P.W.J.

*setiger* (Beck)—Scarborough, abundant in moss on North Cliff (R.L.); Helwath Beck (H.B.).

**ELLESCHUS** Stephens

*bipunctatus* (L.)—Hayburn Wyke, at one time common on sallows, much less common of late years.

**TYCHIUS** Germar

*lineatulus* Steph.—Rare; Scarborough in moss on North Cliff (R.L.); Filey, 1 specimen (W.W.F.).

*schneideri* (Herbst)—Filey (W.W.F.); Scarborough (R.L.).

**ANTHONOMUS** Germar

*rubi* (Herbst)—Common.

var. *brunneipennis* Curt.—Robin Hood's Bay (H.B.).

*pomorum* (L.)—Cross Cliff (R.L.); Forge Valley, Pickering (G.B.W.).

*inversus* Bed.—Rare; Levisham (W.C.H.); Hole of Horcum (H.B.).

ab. *rosinae* Desbr.—Forge Valley, 1 specimen (G.B.W.).

*pedicularius* (L.)—Common.

*conspersus* Desbr.—Common, and at times abundant on mountain ash in several localities in the Scarborough district (G.B.W.).

**CURCULIO** Linnaeus**S. CURCULIO** s. s.

*villosus* Fabr.—Pickering (Y.N.U.Excn., 1918).

*betulae* (Steph.)—Rye says "One specimen named by me for Mr. T. Wilkinson of Scarborough".

*rubidus* (Gyll.)—Goathland, 1 specimen (R.R.U.K.).

**S. BALANOBIUS** Jekel

*salicivorus* Payk.—Common.

*pyrrhoceras* Marsham—Rare; Forge Valley (G.B.W.).

**PISSODES** Germar

*pini* (L.)—Stated by the forester to be common at Thornton-le-Dale in the Government Afforestation Woods (*teste* G. B. Ryle).

**MAGDALIS** Germar

*armigera* (Geoffr. in Fourcr.)—Forge Valley (G.B.W.).

*carbonaria* (L.)—One in Raincliffe Wood (G.B.W.).

**HYLOBIUS** Germar

*abietis* (L.)—Common and generally distributed.

**LIOSOMA** Stephens

*deflexum* (Panz.)—Common.

ab. *collaris* Rye—Rare; Seamer Moor, 1 in moss (G.B.W.).

**ALOPHUS** Schoenherr

*triguttatus* (Fabr.)—Local; Forge Valley (H.C.H.); Seamer (A.E.W.).

**PHYTONOMUS** Schoenherr

*austriacus* (Schr.)—Fairly common.

*dauci* (Ol.)—Rare; Flixton sand-pits, under *Erodium* (G.B.W.).

*adspersus* (Fabr.)—Scarborough (R.L.).

*rubicus* (L.)—Local; Filey (W.W.F.); Raincliffe Wood (E.C.H.); Pickering (J.M.B.).

- nigrirostris** (Fabr.)—Common.  
**arator** (L.)—Local; Scarborough (R.L.).  
**suspiciosus** (Herbst)—Filey, not uncommon near the coast (W.W.F.).  
**plantaginis** (De G.)—Fairly common.  
**fuscocinereus** (Marsham)—Uncommon; Forge Valley (H.C.H.); Cloughton (E.C.H.).  
**posticus** (Gyll.)—Not common but widely distributed.  
**venustus** (Fabr.)—Filey (W.W.F.).
- SITOPHILUS** Schoenherr  
**granarius** (L.)—Common in food stores and generally distributed.  
**oryzae** (L.)—With the last, also common.
- CRYPTORHYNCHIDIUS** Pierce  
**lapathi** (L.)—Hayburn Wyke, not uncommon on sallows (G.B.W.); Pickering (M.D.B.).
- BARIS** Germar  
**laticollis** (Marsham)—Ganton, abundant in flood-refuse (R.L.).  
**lepidii** Germ.—Goathland, Beckhole (R.R.U.K.).
- LIMNOBARIS** Bedel  
**t-album** (L.)—Ringing Keld Bog, abundant in moss (R.L.); Levisham (M.L.T.); Goathland, Fylingdales Moor (R.R.U.K.).
- COELIODES** Schoenherr  
**dryados** (Gmel. in L.)—Fairly common.  
**rubicundus** (Herbst)—Local; Robin Hood's Bay, Sleights (H.B.); Pickering (G.B.W.).
- STENOCARUS** Thomson, C. G.  
**umbrinus** (Gyll.)—Fairly common near Scarborough.
- ZACLADUS** Reitter  
**geranii** (Payk.)—Local; Filey (W.W.F.); Primrose Valley (G.B.W.).
- MICRELUS** Thomson, C. G.  
**ericae** (Gyll.)—Very common on the moors.
- CIDNORHINUS** Thomson, C. G.  
**quadrifasciatus** (L.)—Very common.
- CEUTHORHYNCHIDIUS** du Val  
**dawsoni** Bris.—Rare; Scarborough (E.C.H.).  
**troglodytes** (Fabr.)—Common.
- CEUTHORHYNCHUS** Germar  
**floralis** (Payk.)—Common.  
**litura** (Fabr.)—Common.  
**trimaculatus** (Fabr.)—Raincliffe Wood (R.L.); Yedmandale (E.C.H.).  
**asperifoliarium** (Gyll.)—Egton Bridge (H.B.).  
**pollinarius** (Forst.)—Common.  
**pleurostigma** (Marsham)—Common.  
**assimilis** (Payk.)—Common.  
**cochleariae** (Gyll.)—Egton Bridge (H.B.).  
**quadridens** (Panz.)—Local; Hayburn Wyke, Ellerdale (G.B.W.); Filey (W.W.F.).



*sulcicollis* (Payk.)—Rare; Filey (E.C.H.).

*erysimi* (Fabr.)—Common.

*contractus* (Marsham)—Common.

**RHINONCUS** Schoenherr

*pericarpus* (L.)—Common.

*inconspectus* (Herbst)—Pickering (M.D.B.).

*castor* (Fabr.)—Scalby Beck, common in flood-refuse (R.L.); Saltergate (G.B.W.).

*bruchoides* (Herbst)—Very local; Scarborough Mere (R.L.).

*perpendicularis* (Reich.)—Scarborough Mere (G.B.W.).

**LITODACTYLUS** Redtenbacher

*leucogaster* (Marsham)—Very local; Scarborough (R.L.).

**PHYTOBIUS** Schoenherr

*canaliculatus* Fahr.—Rare; Forge Valley (E.C.H.).

*comari* (Herbst)—Very local; Scarborough (R.L.).

*quadrituberculatus* (Fabr.)—Very local; Filey (W.W.F.); Hayburn Wyke (G.B.W.); Forge Valley (E.C.H.).

*muricatus* Bris.—Rare; Raincliffe Wood (E.C.H.).

*quadrinodosus* (Gyll.)—Rare; Scarborough (R.L.).

**POOPHAGUS** Schoenherr

*sisymbrii* (Fabr.)—Ebberston (W.P.); Snainton brick-ponds (W.C.H.).

**OROBITIS** Germar

*cynaneus* (L.)—Scarborough, abundant in moss on North Side (R.L.); Langdale End, Silpho Moor (E.C.H.); Pickering (M.D.B.).

**NANOPHYES** Schoenherr

*marmoratus* (Goeze)—Hackness, Langdale End (E.C.H.); Forge Valley (G.B.W.).

**MECINUS** Germar

*pyraster* (Herbst)—Common.

**GYMNETRON** Schoenherr

*labile* (Herbst)—Scarborough, North Cliff (R.L.); Beckhole (H.B.).

*linariae* (Panz.)—Pickering (M.D.B.); Yedingham flood-refuse (E.F.G., G.B.W.).

**CIONUS** Schellenberg

*alauda* (Herbst)—Local and rather uncommon; Forge Valley (G.B.W.).

*scrophulariae* (L.)—Common.

**CLEOPUS** Stephens

*pulchellus* (Herbst)—Local; Beckhole (H.B.).

**ANOPLUS** Schoenherr

*plantaris* Naezen—Common.

*roboris* Suffr.—Very local; Hayburn Wyke on alder (G.B.W.).

**RHYNCHAENUS** Schellenberg

*quercus* (L.)—Rather local; Scarborough (R.L.); Forge Valley, Silpho Moor (E.C.H.); Langdale End (G.B.W.).

*pilosus* (Fabr.)—Robin Hood's Bay (H.B.).

*avellanae* (Don.)—Scarborough (R.L.).

**rusci** (Herbst)—Scarborough (R.L.); Seamer Moor (G.B.W.); Pickering (Y.N.U.Excn., 1938).

**fagi** (L.)—Common.

**salicis** (L.)—Common.

**foliorum** (Muell., O. F.)—Rare; Hayburn Wyke (G.B.W.).

**RHAMPHUS** Schellenberg

**pulicarius** (Herbst)—Common and widely distributed.

## SCOLYTIDAE

**SCOLYTUS** Geoffroy

**intricatus** (Ratz.)—Beckhole, Sleights (H.B.).

**scolytus** (Fabr.)—At one time abundant in Raincliffe Wood and at Seamer, not so common nowadays; Beckhole, Sleights (H.B.).

**mali** (Bech.)—Scarborough (R.L.); Lawson's record of **S. intricatus** is given under **mali** by W.J.F.

**HYLESINUS** Fabricius

**crenatus** (Fabr.)—Fairly common and widely distributed.

**fraxini** (Panz.)—Common.

**oleiperda** (Fabr.)—Scarborough (E.G.B.).

**XYLECHINUS** Chapuis

**pilosus** (Ratz.)—Scarborough (R.L.); very rare, probably introduced.

**KISSOPHAGUS** Chapuis

**hederae** (Schmitt)—Raincliffe Wood (R.L.); prefers ivy just dying after severance from roots but not dead.

**HYLASTINUS** Bedel

**obscurus** (Marsham)—Scarborough (T.W.); Robin Hood's Bay, Sleights, Littlebeck (H.B.); Throxenby Mere 1 on **Salix** leaf (W.D.H.).

**MYELOPHILUS** Eichhoff

**piniperda** (L.)—Raincliffe Wood (E.C.H.); Goathland (H.B.).

**HYLURGOPS** Leconte

**palliatu**s (Gyll.)—Rather common and widely distributed.

**HYLASTES** Erichson

**ater** (Payk.)—Hutton Buscel (E.G.B.); Robin Hood's Bay (H.B.); these records may refer to the next species.

**brunneus** Er.—Wykeham (G.B.W.).

**opacus** Er.—Wykeham, a few under bark (G.B.W.).

**POLYGRAPHUS** Erichson

**poligraphus** (L.)—Very rare; Scarborough 1 specimen under bark (R.L.).

**CRYPHALUS** Erichson

**abietis** (Ratz.)—Scarborough (C.E.S.); Wykeham (G.B.W.).

**TRYPOPHLOEUS** Fairmaire

**asperatus** (Gyll.)—Scarborough (T.W.).

**PHLOEOPHTHORUS** Wollaston

**rhododactylus** (Marsham)—Locally abundant in stems of gorse.

**DRYOCOETES** Eichoff

**autographus** (Ratz.)—Local; Scarborough (T.W.); Beedale (G.B.W.).

**villosus** (Fabr.)—Sleights (H.B.).

**TRYPODENDRON** Stephens

**domesticum** (L.)—Fairly common.

**lineatum** (Ol.)—The larval burrows were found at Thornton-le-Dale but not the perfect insect.

**PITYOGENES** Bedel

**chalcographus** (L.)—Very local; Scarborough (T.W.).

**bidentatus** (Herbst)—Common; Cloughton, abundant in pine branches (G.B.W.); Sleights, Goathland (H.B.).

**IPS** De Geer.

**typographus** (L.)—Scarborough (T.W.).

**acuminatus** Gyll.—Rare; Scarborough (R.L.).

**ONTHOTOMICUS** Ferrari

**laricus** (Fabr.)—Very local; Forge Valley (E.C.H.).

**ANISANDRUS** Ferrari

**saxesenii** (Ratz.)—Broxa, Langdale End (A.M.R.).

## PLATYPODIDAE

**PLATYPUS** Herbst

**cylindrus** (Fabr.)—Very local and rare; Scarborough (R.L., T.W.).

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## Order HYMENOPTERA

G. B. Walsh

### SYMPHYTA—SAWFLIES

It is only during the last few years that the sawflies of the district have been systematically collected and studied, and so records tend to cluster round the three centres of population where the collectors have lived, Whitby, Robin Hood's Bay and Scarborough.

Much still remains to be done in adding new species and in extending our knowledge of distribution—in particular the Carrs and the Wolds are almost wholly *terra incognita*.

The records are mainly compiled from the record-books of the Scarborough Field Naturalists' Society, from a private list generously lent by Mr. H. Britten, fil., and from the columns of *The Naturalist*, especially a list of sawflies from the Robin Hood's Bay area compiled by Mr. J. M. Brown (*Nat.*, 1944, pp. 124-127).

The sawflies collected by W. J. Fordham and G. B. Walsh were named by the late Rev. F. D. Morice; for the identification of the others the responsibility rests with the captors.

We are deeply indebted to Dr. W. D. Hincks for his assistance in the compilation of this list and to Mr. R. B. Benson for much useful advice and help.

As far as the two parts already (Sept., 1954) go, the classification and nomenclature are those of R. B. Benson, *Handbooks for the Identification of British Insects, Symphyta*, Parts 2a and 2b published by the Royal Entomological Society of London, 31 Oct., 1951, and 5 Sept., 1952. After this, the list follows *A Check List of British Insects* by A. S. Kloet and W. D. Hincks.

The following initials are used :—

H.B.	H. Britten fil.	E.C.H.	E. C. Horrell
J.M.B.	J. M. Brown	R.L.	R. Lawson
H.J.B.	H. J. Burkill	G.T.P.	G. T. Porritt
W.F.	W. Falconer	M.L.T.	M. L. Thompson
W.J.F.	W. J. Fordham	G.B.W.	G. B. Walsh
W.W.F.	W. W. Fowler	T.W.	T. Wilkinson
W.D.H.	W. D. Hincks		

### XYELIDAE

#### XYELA Dalman

*julii* Bréb.—Though Mr. Benson states that this is "common and sometimes extremely abundant" (p. 9), there is only one record for our district, a single spn. taken on spruce in Forge Valley (G.B.W.).



## PAMPHILIIDAE

**PAMPHILIUS** Latreille**hortorum** (Klug)—Brockets (J.M.B.).**vafer** (L.)—Seamer Moor (G.B.W.).**pallipes** (Zett.)—Ramsdale on sweet gale, **Myrrhis odorata** (J.M.B.).**inanitus** (De Villers, C. J.)—Fyling Hall (J.M.B.).**sylvaticus** (L.)—Robin Hood's Bay on several occasions, Ramsdale (J.M.B.); Fyling Hall, 26/6/29 (W.J.F.).

## SIRICIDAE

**UROCERUS** Geoffroy**gigas** (L.)—Thorpe (J.M.B.); occurs in small numbers each year in the Scarborough district (G.B.W.); Beckhole, Sleights (H.B.).**SIREX** Linnaeus**juvencus** (L.)—Rare at Scarborough (G.B.W.) and at Robin Hood's Bay (J.M.B.).

## CEPHIDAE

**HARTIGIA** Schioedte**linearis** (Schr.)—Low Farm Fields, Robin Hood's Bay (J.M.B.).**CEPHUS** Latreille**pygmaeus** (L.)—Robin Hood's Bay (J.M.B., H.B.); Flixton (J.M.B.); Wykeham (W.D.H.).**CALAMEUTA** Konow**pallipes** (Klug)—Ramsdale (J.M.B.).

## ARGIDAE

**ARGE** Schrank**ustulata** (L.)—Ramsdale on flowers of sweet gale (J.M.B.); Fyling Hall, -/6/28 (W.J.F.).

## CIMBICIDAE

**CIMBEX** Olivier**femorata** (L.)—Staintondale (G.B.W.).**TRICHIOSOMA** Leach**sorbi** Hart.—Larvae not uncommon on mountain ash, **Sorbus aucuparia** at Staintondale (G.B.W.).**lucorum** (L.)—Brockets (J.M.B.); Staintondale, common near Scarborough (G.B.W.); Filey (G.T.P.).

## DIPRIONIDAE

**NEODIPRION** Rohwer**sertifer** (Geoffr.)—Larvae at Goathland, 7/7/31 (R. J. Flintoff, det. R. B. Benson).**DIPRION** Schrank**pini** (L.)—Occasional in the Scarborough district, sometimes stripping pine trees of their needles, but rarely doing serious damage (G.B.W.).

## TENTHREDINIDAE

**STROMBOCEROS** Konow**delicatulus** (Fall.)—Generally common about bracken, **Pteridium aquilinum**.

**STRONGYLOGASTER** Dahlbom

**lineata** (Klug)—Common about bracken and generally distributed; J.M.B. says "Males much rarer".

**ANEUGMENUS** Hartig

**padi** (L.) (= **stramineipes** Klug)—Common and generally distributed among bracken.

**MELISANDRA** Benson

**morio** (Fabr.)—Hawsker, Maw (J.M.B.); Egton Bridge (H.B.).

**SELANDRIA** Leach

**serva** (Fabr.)—Common and generally distributed, early June to late August.

**sixii** Voll.—Brockets, 30/5/40 (J.M.B.).

**LODERUS** Konow

**vestigialis** Klug—Common among horsetail, **Equisetum** spp. and widely distributed.

**DOLERUS** Panzer

**bimaculatus** (Geoffr. in Fourcr.)—Robin Hood's Bay among horsetail (J.M.B.).

**pratensis** (L.)—With the last (J.M.B.).

**germanicus** (Fabr.)—Not common; Robin Hood's Bay (J.M.B.).

**aericeps** Thoms., C. G.—Very plentiful in the Robin Hood's Bay area wherever **Equisetum limosum** and **E. palustre** occur from June to August (J.M.B.); Levisham, Goathland (H.B.); Throxenby Mere (G.B.W.).

**cothurnatus** Lep.—With the last.

**madidus** (Klug)—Ramsdale about **Juncus** (J.M.B.); Hole of Horcum (H.B.).

**ferrugatus** Lep.—About **Juncus** on several occasions at Robin Hood's Bay (J.M.B.).

**puncticollis** Thoms., C. G.—Robin Hood's Bay (J.M.B.).

**gonager** (Fabr.)—Generally distributed and common in grassy places, even in the middle of Scarborough.

**haematodes** Schr.—Jugger Howe Dale (G.B.W.); Robin Hood's Bay (J.M.B.).

**asper** Zadd.—Raw, Robin Hood's Bay (J.M.B.); Seamer Moor (G.B.W.); Fyling Hall (W.J.F.).

**nitens** Zadd.—Rigg, Robin Hood's Bay (J.M.B.).

**niger** (L.)—Ramsdale, Oxbank Wood (J.M.B.).

**aeneus** Hart.—Very common.

**picipes** (Klug)—Common and widely distributed.

**nigratus** Muell., O. F.—Common.

**anthracinus** Klug—Only males seen in late March in the Robin Hood's Bay area (J.M.B.).

**rugosulus** Dalla Torre (= **brevitarsus** Hart.)—Plentiful in the Robin Hood's Bay area (J.M.B.).

**HETERARTHURUS** Stephens

**aceris** (Kalt.)—Larvae in sycamore, **Acer campestre**, Robin Hood's Bay (J.M.B.).

**vagans** (Fall.)—Beaten from alder, **Alnus**, Brockets (J.M.B.).

**ATHALIA** Leach

**bicolor** Lep.—Robin Hood's Bay, 9/6/45 (J.M.B.).

**glabricollis** Thoms., C. G.—Common about flowers of **Cruciferae** from June to late September in the Robin Hood's Bay area (J.M.B.).

**lucens** Klug—Ramsdale on sweet gale, 1 spn. only, 15/5/43 (J.M.B.).

**cordata** Lep.—Very common.

**lineolata** Lep.—Common and widely distributed.

var. **cordatoides** Pries.—Raincliffe Wood, 18/6/43 (W.D.H.).

**liberta** Klug—Goathland (H.B.).

**MONSOMA** MacGillivray

**pulverata** (Retz.)—Brockets, Fyling Hall (J.M.B.).

**EMPRIA** Lepeletier

**baltica** Conde—Maw Wyke (J.M.B.) ; Raincliffe Wood, 12/6/43 (W.D.H.).

**liturata** (Gmel.)—Forge Valley (G.B.W.).

**tridens** (Kon.)—Ramsdale, Brockets (J.M.B.); Egton Bridge (H.B.).

**alector** Bens.—Linger's Fields, Robin Hood's Bay (J.M.B.).

**AMTASTEGIA** Costa, A.

**equiseti** (Fall.)—Ramsdale (J.M.B.).

**glabrata** (Fall.)—Ramsdale, Robin Hood's Bay (J.M.B.).

**ALLANTUS** Panzer

**rufocinctus** (Retz.)—Beaten from hedges among **Rosa** and **Rubus**, Ramsdale, Robin Hood's Bay (J.M.B.).

**cinctus** (L.)—On garden roses, frequent between early June and late July, Ramsdale, Middlewood Lane, Robin Hood's Bay (J.M.B.); Hole of Horcum (H.B.).

**cingulatus** (L.)—Robin Hood's Bay (J.M.B.).

**ERIOCAMPA** Hartig

**ovata** (L.)—Forge Valley (G.B.W.).

**ENDELOMYIA** Ashmead

**aethiops** (Fabr.)—Frequent on garden roses, Robin Hood's Bay (J.M.B.).

**CALIROA** Costa, O.

**varipes** (Lep.)—Fyling Hall, 29/6/29 (W.J.F.); Beckhole, 1945 (H.B.).

**EUTOMOSTETHUS** Enslin

**ephippium** (Panz.)—Brockets, Ramsdale, Raw (J.M.B.); Raincliffe Wood, 18/6/43 (W.D.H.).

**luteiventris** (Klug)—Common among damp vegetation, especially **Juncus**, during May and June, Robin Hood's Bay area (J.M.B.); Egton Bridge, Hole of Horcum (H.B.); Raincliffe Wood (G.B.W.).

**STETHOMOSTUS** Benson

**fuliginosus** (Schr.)—Hole of Horcum (H.B.).

**MONOPHADNUS** Hartig

**pallescens** (Gmel.)—Robin Hood's Bay, Ramsdale (J.M.B.).

**ARDIS** Konow

**sulcata** (Cam., P.)—On garden roses, Robin Hood's Bay (J.M.B.).

**BLENNOCAMPA** Hartig

*pusilla* (Klug)—Hayburn Wyke (G.B.W.).

**MONOPHADNOIDES** Ashmead

*geniculata* (Hart.)—Forge Valley (G.B.W.); Robin Hood's Bay (J.M.B.).

*waldheimii* (Gimm.)—Ramsdale, 30/5/42 (J.M.B.).

*confusa* (Kon.)—Raw (J.M.B.).

**HALIDAMIA** Benson

*affinis* (Fall.)—Ramsdale (W.J.F.); Robin Hood's Bay (J.M.B.).

**METALLUS** Forbes

*albipes* (Cam., P.)—Robin Hood's Bay, 14/8/45 (J.M.B.).

**SCOLIONEURA** Konow

*betuleti* (Klug)—Seamer Moor (G.B.W.).

**PROFENUSA** MacGillivray

*pygmaea* (Klug)—Ramsdale (J.M.B.).

**FENUSA** Leach

*ulmi* Sund.—Ramsdale (J.M.B.).

*dohrnii* (Tischb.)—Ramsdale, Fyling Hall, Brockets (J.M.B.).

**PERINEURA** Hartig

*rubi* (Panz.)—Ramsdale, 1 f., 7/6/46 (J.M.B.).

**AGLAOSTIGMA** Kirby, W. F.

*aucuparia* (Klug)—Common and generally distributed.

*fulvipes* (Scop.)—Fyling Hall, -/6/28 (W.J.F.); Rigg, Robin Hood's Bay (J.M.B.).

**TENTHREDOPSIS** Costa, A.

*excisa* (Thoms., C. G.)—Hole of Horcum (H.B.).

*litterata* (Geoffr.)—Seamer Moor (G.B.W.); Fyling Hall (W.J.F.); Robin Hood's Bay (J.M.B.).

*nassata* (L.)—Very common.

**RHOGOGASTER** Konow

*picta* (Klug)—Restricted to areas where broom, *Sarothamnus scoparius* occurs, Ravenscar (J.M.B.).

*punctulata* (Klug)—Brockets, Ramsdale, Raw (J.M.B.); Hole of Horcum (H.B.); Fyling Hall, -/6/28 (W.J.F.).

*viridis* (L.)—Very common.

**TENTHREDO** Linnaeus

*maculata* Geoffr.—Common and generally distributed.

*temula* Scop.—Also common.

*atra* L.—Common.

*livida* L.—Plentiful.

*ferruginea* Schr.—Widely distributed.

*balteata* Klug.—Plentiful.

*velva* Fabr.—Hayburn Wyke, 17/6/24; Raincliffe Wood (W.D.H.).

*colon* Klug—Forge Valley, Robin Hood's Bay (J.M.B.).

*olivacea* Klug—Less common than some of the preceding species; Robin Hood's Bay, Hawsker, Ramsdale (J.M.B.).

*mioceras* (Ensl.)—Ramsdale, Hawsker (J.M.B.).

*mesomelas* L.—Plentiful.

*vespa* Retz.—Robin Hood's Bay (J.M.B.).

*arcuata* Forst.—Very common.

*perkinsi* (Mor.)—Forge Valley (G.B.W.); Fyling Hall (W.J.F.); Ramsdale (J.M.B.).

**PACHYPROTASIS** Hartig

*antennata* (Lep.)—Ramsdale (J.M.B.); Goathland (H.B.).

*rapae* (L.)—Very common.

**MACROPHYA** Dahlbom

*duodecimpunctata* (L.)—Goathland (H.B.).

*annulata* (Geoffr.)—Fyling Hall, Ramsdale, Robin Hood's Bay (J.M.B.).

**CLADIUS** Illiger

*pectinicornis* (Geoffr.)—Robin Hood's Bay (J.M.B.).

**PRIOPHORUS** Dahlbom

*eradiatus* (Hart.)—Common on hawthorn, *Crataegus*, Robin Hood's Bay, from late May to mid-August (J.M.B.); Scarborough (G.B.W.).

*varipes* Lep.—Fyling Hall, 24/6/25 (W.J.F.).

**PSEUDODINEURA** Konow

*fuscula* (Klug)—Among damp vegetation, Ramsdale (J.M.B.).

**MESONEURA** Hartig

*opaca* (Fabr.)—Robin Hood's Bay, 22/5/45 (J.M.B.).

**HEMICHROA** Stephens

*alni* (L.)—Fyling Hall, on alder (W.J.F.).

**HOPLOCAMPA** Hartig

*testudinea* (Klug)—Sleights (H.B.).

*crataegi* (Klug)—Ramsdale (J.M.B.); Robin Hood's Bay (H.B.); Scarborough (G.B.W.); Wykeham (W.D.H.).

**PLATYCAMPUS** Schioedte

*luridiventris* (Fall.)—Fyling Hall, Ramsdale, Brockets (J.M.B.); Scarborough (G.B.W.); Hole of Horcum (H.B.).

**ANOPLONYX** Marlatt

*duplex* (Lep.)—Egton Bridge (H.B.).

**CROESUS** Leach

*varus* (de Villaret)—Ramsdale, Ravenscar (J.M.B.).

**EUURA** Newman

*atra* (Jur.)—Scarborough (G.B.W.); Littlebeck (H.B.); Harwood Dale (H.J.B.); Robin Hood's Bay, Ravenscar (J.M.B.).

*amerinae* (L.)—Common on *Salix pentandra* in Troutsdale and Raincliffe Wood (G.B.W.); Robin Hood's Bay (J.M.B.).

*testaceipes* (Zadd.)—Cornelian Bay on *Salix fragilis* (H.J.B.).

*saliceti* (Fall.)—Very plentiful on *Salix* during May and June.

*venusta* (Zadd.)—Common and widely distributed.

**PONTANIA** Costa, A.

*leucosticta* (Hart.)—Ramsdale, Raw on *Salix caprea* (J.M.B.).

*viminalis* (L.)—Littlebeck (H.B.); Cornelian Bay (H.J.B.).

*pedunculi* (Hart.)—Littlebeck (H.B.); Galls from Ravenscar, Jugger Howe Dale, Staintondale (H.J.B.); Falcon Inn (W.F.).

*proxima* (Lep.)—Galls abundant.

**DINEURA** Dahlbom*virididorsata* (Retz.)—Ramsdale on birch (J.M.B.).*stilata* (Klug)—Plentiful on hawthorn, Robin Hood's Bay during June and July (J.M.B.).**NEMATUS** Panzer*lucidus* Panz.—Ramsdale, Raw, Brockets on hawthorn (J.M.B.).**HOLCOCNEME** Konow*crassa* (Fall.)—Robin Hood's Bay, 26/6/46 (J.M.B.).**PTERONIDEA** Rohwer*ferruginea* (Foerst.)—Helwath Beck (H.B.).

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**BRACONIDAE**

There is a vast field of work to be done here, and we have only a few scattered records.

H.B.—H. Britten fil.

W.D.H.—W. D. Hincks

W.J.F.—W. J. Fordham

G.T.L.—G. T. Lyle

G.B.W.—G. B. Walsh

**BRACON** Fabricius*anthracinus* Nees—Filey (G.T.L.) ; Flixton, 13/6/43 (W.D.H.).*marshalli* Szépl.—Goathland Moor, 1925 (G.T.L.).*exhilarator* Nees—Raincliffe Wood, 11/6/43 (W.D.H.).**EXOTHECUS** Wesmael*bracoonis* (Hal.)—Wykeham, 11/6/43 (W.D.H.).**ROGAS** Nees*unipunctator* (Thunb.)—Filey, -/8/22 (W.J.F.) ; Raincliffe Wood, 11/6/43 (W.D.H.).*circumscriptus* Nees—Wykeham, 6/6/45 (W.D.H.) ; Hole of Horcum, 12/6/37 (H.B.).**CHELONUS** Jurine*inanitus* (L.)—Flixton, 12/6/43 (W.D.H.).



**APANTELES** Foerster*glomeratus* (L.)—Abundant.*difficilis* (Nees)—Hole of Horcum, 1 f., 5/6/37 (H.B.).*fulvipes* (Hal.)—Scarborough, bred from Noctuid larva (G.B.W.), probably common.*meridiana* Hal.—Castle Hill, Scarborough, 13/6/43 (W.D.H.).**MICROGASTER** Latreille*alvearia* (Fabr.)—Scarborough (G.B.W.).**MICROPLITIS** Foerster*tristis* (Nees)—Flixton, 13/6/43 (W.D.H.).**BRACHISTES** Wesmael*tibialis* (Hal.)—Raincliffe Wood, 12/6/43 (W.D.H.).**PYGOSTOLUS** Haliday*falcatus* (Nees)—Beedale, 7/6/45 (W.D.H.).*sticticus* (Fabr.)—Beedale, 7/6/45 (W.D.H.).**BLACUS** Nees*ruficornis* (Nees)—Forge Valley, sweeping, 5/5/23 (G.B.W.).*maculipes* (Wesm.)—Seamer Moor in stack refuse, 4/1/23 (G.B.W.).**MACROCENTRUS** Curtis*marginator* (Nees)—Robin Hood's Bay (W.J.F.).**DIOSPILUS** Haliday*capito* (Nees)—Goathland (G.T.L.).**METEORUS** Haliday*ictericus* (Nees)—Helwath Beck, 26/9/37 (H.B.).**MICROCTONUS** Wesmael*aethiops* (Nees)—Goathland (G.T.L.).**EUPHORUS** Nees*pallipes* (Curt.)—Raincliffe Wood to Forge Valley, 12/6/43 (W.D.H.).**OPIUS** Wesmael*victus* Hal.—Beedale, 7/6/45 (W.D.H.).**CHASMODON** Haliday*apterus* (Nees)—Scalby in cut grass, 23/7/19 (G.B.W.).**PANEREMA** Foerster*inops* Marshall—Forge Valley, 16/9/46 (W.D.H.).**TRACHYUSA** Ruthe*aurora* (Hal.)—Beedale, 7/6/45 (W.D.H.).**TANYCARPA** Foerster*gracilicornis* (Nees)—Beedale, 7/6/45 (W.D.H.).**ALYSIA** Latreille*manducator* (Panz.)—Hole of Horcum, 8/8/37 (H.B.) ; Scarborough (G.B.W.) ; probably common.**PHAENOCARPA** Foerster*ruficeps* (Nees)—Beedale, 6/6/45 (W.D.H.).**RHIZARCHA** Foerster*pubescens* (Curt.)—Beedale, 7/6/45 (W.D.H.).**EPHEDRUS** Haliday*plagiator* (Nees)—Beedale, 7/6/45 (W.D.H.).*lacertosus* (Hal.)—Beedale, 7/6/45 (W.D.H.).



**MONOCTONUS** Haliday

*caricis* (Hal.)—Flixton, 13/6/43 (W.D.H.).

**APHIDIUS** Nees

*rosae* Hal.—Beedale, 7/6/45 (W.D.H.) ; Scarborough (G.B.W.).

*avenae* Hal. — Flixton, 14/6/43 (W.D.H.); Beedale, 7/6/45 (W.D.H.).

*ervi* Hal.—Raincliffe Wood to Forge Valley, 12/6/43 (W.D.H.).

*granarius* Marshall—Raincliffe Wood, 12/6/43 (W.D.H.).

**DYSCRITULUS** Hincks

*planiceps* (Marshall)—Robin Hood's Bay, Thorpe, 17/9/46, cliffs 19/9/46 (A. E. Winter) ; Scarborough, common (G.B.W.).

**ICHNEUMONIDAE**

The following initials are used :—

H.B.—H. Britten, fil.

W.J.F.—W. J. Fordham

W.D.H.—W. D. Hincks

G.B.W.—G. B. Walsh

**STENICHNEUMON** Thomson, C. G.

*militarius* (Thunb.)—Ramsdale, 30/6/29 (W.J.F.).

*ratzeburgii* (Hart.)—Staintondale, 28/6/26 (G.B.W.).

**CRATICHNEUMON** Thomson, C. G.

*nigritarius* (Grav.)—Hole of Horcum, 4/8/37 (H.B.).

*fabricator* (Fabr.)—Raincliffe Wood, 6/20, Yedmandale, 7/23 (G.B.W.) ; Raincliffe Wood, 12/6/43, males only, very common (W.D.H.).

*culex* (Muell., O. F.)—Staintondale, 28/6/26, Seamer Moor, 6/26 (G.B.W.) ; Ramsdale, 22/6/24 (W.J.F.) ; Raincliffe Wood, 12/6/43 (W.D.H.).

*versator* (Thunb.)—Fylinghall, 29/6/29 (W.J.F.).

*rufifrons* (Grav.)—Forge Valley, Troutsdale, Staintondale, by beating flowers of mountain ash, 28/6/26 (G.B.W.).

*lanius* (Grav.)—Hayburn Wyke, 17/6/24 (W.J.F.) ; Raincliffe Wood, 6/20 (G.B.W.).

**BARICHNEUMON** Thomson, C. G.

*bilunulatus* (Grav.)—Raincliffe Wood, 6/26 (G.B.W.).

*locutor* (Thunb.)—Staintondale, 28/6/26 (G.B.W.).

**ICHNEUMON** Linnaeus

*nereni* Thoms., C.G.—Staintondale (G.B.W.).

*xanthorius* Forst.—Fylinghall, 7/9/20 (W.J.F.) ; Littlebeck, 17/5/37 (H.B.).

*deliratorius* L.—Ravenscar (C. T. Bingham) ; Wykeham, 6/6/45, Scarborough Mere, 3/6/43 (W.D.H.).

*confusorius* Grav.—Raincliffe Wood, 6/20 (G.B.W.).

*stramentarius* Grav.—Pickering (G.B.W.).

*suspiciosus* Wesm.—Hole of Horcum, 31/8/37 (H.B.).

*sarcitorius* L.—Common near Scarborough (G.B.W.).

**CHASMIAS** Ashmead*motatorius* (Fabr.)—Fylinghall, 6/28 (W.J.F.).**LIMERODES** Wesmael*arctiventris* Boie—Hayburn Wyke (E. A. Elliot).**SPILICHNEUMON** Thomson, C. G.*occisarius* (Fabr.)—Scalby High Moor, 24/8/24 (G.B.W.).**AMBLYTELES** Wesmael*uniguttatus* (Grav.)—Forge Valley, 3/8/22 (W.J.F., G.B.W.).*armatorius* (Forst.)—Raincliffe Wood, Forge Valley (G.B.W.).*palliatorius* (Grav.)—Gristhorpe, 1891 (W. Hewett); Fylinghall, 7/9/20 (W.J.F.).*fossorius* (L.)—Ravenscar, 25/8/23 (T. Stainforth).**PLATYLABUS** Wesmael*pedatorius* (Fabr.)—Fylinghall, 1/7/29 (W.J.F.).*rufus* Wesm.—Hayburn Wyke (G.B.W.); Fylinghall, 29/6/29 (W.J.F.).*vibratorius* (Thunb.)—Troutdale (G.B.W.).**CYCLOLABUS** Heinrich*nigricollis* (Wesm.)—Fylinghall, m., 6/28 (W.J.F.).**EURYLABUS** Wesmael*rufipes* (Steph.)—Fylinghall, 29/6/29 (W.J.F.).**DIADROMUS** Wesmael*trogodytes* (Grav.)—On spruce, Forge Valley, 27/5/24 (G.B.W.).*subtilicornis* (Grav.)—Sweeping, Forge Valley, 5/6/23 (G.B.W.).**AETHECERUS** Wesmael*dispar* Wesm.—Raincliffe Wood (G.B.W.).**MEVESIA** Holmgren*arguta* (Wesm.)—Robin Hood's Bay, 9/27 (W.J.F.).**PHAEOTENES** Wesmael*invisor* Thunb.—On spruce, Goathland (G.B.W.).**ALOMYA** Panzer*debellator* (Fabr.)—Common and widely distributed.**APTESIS** Foerster*abdominator* (Grav.)—Sweeping, Forge Valley, 5/6/26 (G.B.W.).**RHEMBOBIUS** Foerster*perscrutator* (Thunb.)—Raincliffe Wood, 25/4/28 (G.B.W.).**GLYPHICNEMIS** Foerster*profligator* (Fabr.)—Staintondale, 28/6/26 (G.B.W.).*brevis* Grav.—On flowers, Staintondale, 28/6/26 (G.B.W.).*erythrogastra* (Grav.)—Wykeham, 6/6/45 (W.D.H.).**PHYGADEUON** Gravenhorst*variabilis* Grav.—Pickering (G.B.W.).*exiguus* Grav.—Pickering (G.B.W.).*ovatus* Grav.—Staintondale, 28/6/26 (G.B.W.).*gravenhorsti* (Foerst.)—In cut grass, Scalby, 5/7/19 (G.B.W.).**ISCHNURGOPS** Foerster*claviger* (Tasch.)—Raincliffe Wood, 28/6/24 (G.B.W.).*tenerrimus* (Grav.)—With the last.

**HEMITELES** Gravenhorst

- cinctus* (L.)—Hole of Horcum, 4/8/37 (H.B.).  
*necator* (Fabr.)—Sweeping, Forge Valley, 20/10/23 (G.B.W.).  
*areator* (Panz.)—Hole of Horcum, 4/8/37, 7/5/38 (H.B.); Forge Valley (G.B.W.).  
*similis* (Gmel. in L.)—On spruce, Forge Valley, 11/5/24 (G.B.W.).  
*gravenhorstii* (Ratz.)—Raincliffe Wood (G.B.W.).  
*paradoxus* Bridgman—Raincliffe Wood (G.B.W.).  
*atricapillus* Grav.—Scarborough district (G.B.W.).  
*subzonatus* (Grav.)—In cut grass, Scalby, 5/7/19 (G.B.W.).

**GELIS** Thunberg

- festinans* (Fabr.)—Flamborough, 14/9/25 (G.B.W.).  
*pulicaria* (Fabr.)—Scalby High Moor, 10/9/22 (G.B.W.).  
*carnifex* (Foerst.)—Common.  
*ochracea* (Foerst.)—Beating alder, Forge Valley, 20/8/25 (G.B.W.).  
*modesta* (Foerst.)—Common.  
*distincta* (Foerst.)—Pickering, Forge Valley, 4/9/25, Scalby High Moor, 4/8/21 (G.B.W.).  
*fraudulenta* (Foerst.)—Beating, Cloughton Bank, 29/8/25 (G.B.W.).  
*attenta* (Foerst.)—Hayburn Wyke, 27/5/19 (G.B.W.).  
*agilis* (Fabr.)—Scarborough district (G.B.W.).  
*unicolor* (Foerst.)—Forge Valley (G.B.W.).  
*insolens* (Foerst.)—Robin Hood's Bay, 19/6/37, 1/7/37 (H.B.).  
*melanocephala* Schrank—Raincliffe Wood, 10/8/25 (G.B.W.); Hole of Horcum, 13/7/37 (H.B.).

**POLYRHEMBIA** Foerster

- tenebricosa* Grav.—Sweeping, Forge Valley, 5/5/23, Raincliffe Wood, 28/6/24 (G.B.W.).

**STILPNUS** Gravenhorst

- gagates* Grav.—Sweeping, Forge Valley, 20/10/23 (G.B.W.).

**PYCNOCRYPTUS** Thomson, C. G.

- director* (Thunb.)—Scarborough (G.B.W.).

**AGROTHEREUTES** Foerster

- abbreviator* (Fabr.)—Raincliffe Wood (G.B.W.).

**PIMPLA** Fabricius

- instigator* (Fabr.)—Goathland, 15/10/36, f. (H.B.).  
*contemplator* (Muell., O. F.)—Fylinghall, Forge Valley, 5/6/26 (G.B.W.).  
*turionellae* (L.)—Raincliffe Wood, Hayburn Wyke (G.B.W.).

**ITOPLECTIS** Foerster

- maculator* (Fabr.)—Hayburn Wyke, Staintondale, Forge Valley (G.B.W.); Sleights, 29/9/37 (H.B.).  
*alternans* (Grav.)—Goathland (G.B.W.).

**APECHTHIS** Foerster

- compunctor* (L.)—Scarborough (Y.N.U. Excn., 1882); Seamer Moor (G. Tyers).  
*rufata* (Gmel. in L.)—Seamer Moor (G. Tyers).

**PERITHOUS** Holmgren

*divinator* (Rossi)—Helwath Beck, 25/8/35 (H.B.).

**TROMATOBIA** Foerster

*ovivora* (Boh.)—Fylinghall, 6/28 (W.J.F.).

*oculatoria* Fabr.—Raincliffe Wood to Forge Valley, 12/6/43, f. (W.D.H.).

**CLISTOPYGA** Gravenhorst

*incitator* (Fabr.)—Ellerbeck, 5/8/36 (H.B.) ; Robin Hood's Bay, 6/34 (W.J.F.).

**RHYSSA** Gravenhorst

*persuasoria* (L.)—Owing to its large size and striking appearance, there are numerous records of this insect.

**GLYPTA** Gravenhorst

*bifoveolata* Grav.—Staintondale, 28/6/26, Raincliffe Wood (G.B.W.).

**PHYTODIETUS** Gravenhorst

*ornatus* (Desv.)—Staintondale, 9/23 (W.J.F.).

*gelitarius* (Thunb.)—Staintondale, 28/6/26 (G.B.W.).

**LAMPRONOTA** Curtis

*catenator* (Panz.)—Fylinghall (G.B.W.).

*bilineata* (Grav.)—Fylinghall, 6/28 (W.J.F.).

**LISSONOTA** Gravenhorst

*cylindrator* (de Vill., C. J.)—Common and widely distributed from June to September.

*bellator* (Grav.)—Also common and widely distributed.

**CYLLOCERIA** Schioedte

*caligata* (Grav.)—Robin Hood's Bay, 9/27 (W.J.F.).

**EXETASTES** Gravenhorst

*cinctipes* (Retz.)—Scarborough (G.B.W.).

**ISCHNOCEROS** Gravenhorst

*rusticus* (Geoffr. in Fourcr.)—Fylinghall, 6/28 (W.J.F.).

**TRYPHON** Fallén

*vulgaris* Holmgr.—Scarborough, 20/7/26 (G.B.W.).

**PERILISSUS** Holmgren

*rufoniger* (Grav.)—Fylinghall, 8/28 (W.J.F.).

*spilonotus* (Steph.)—Forge Valley, 6/26 (G.B.W.).

*luteolator* (Grav.)—Robin Hood's Bay, 10/6/24 (W.J.F.) ; Scalby (G.B.W.).

**PRIONOPODA** Holmgren

*stictica* (Fabr.)—Helwath Beck, 26/6/37 (H.B.).

**HADRODACTYLUS** Foerster

*tiphae* (Geoffr. in Fourcr.)—Troutdale (G.B.W.).

**GENARCHES** Foerster

*sulphuratus* Grav.—Staintondale, 9/27 (W.J.F.).

**LAMACHUS** Foerster

*eques* (Hart.)—Goathland ex *Neodiprion sertifer* (Geoffr.), 5/32 (W.J.F. & R. J. Flintoff).

**MESOLEIUS** Holmgren

*filicornis* Holmgr.—Beedale (G.B.W.).

**SCOPESES** Foerster*bicolor* (Grav.)—Raincliffe Wood (G.B.W.).**EXOCHUS** Gravenhorst*decoratus* (Holmgr.)—Staintondale, 23/6/27 (G.B.W.).**DIPLAZON** Nees*graculus* (Grav.)—Ramsdale, 7/9/20 (W.J.F.).*deletus* (Thoms., C.G.)—Rare ; Thorpe, 24/6/24 (W.J.F.).*annulatus* (Grav.)—Flixton and Staxton, 14/6/43, m. (W.D.H.).*albosignatus* (Grav.)—Raincliffe Wood, 6/24 (G.B.W.).*tetragonus* (Thunb.)—Raincliffe Wood, Hayburn Wyke, Scarborough on window, 20/8/26 (G.B.W.) ; Fylinghall, 6/28 (W.J.F.).*laetatorius* (Fabr.)—Common.*pectoratorius* (Grav.)—Staintondale, on mountain ash (G.B.W.) ; Fylinghall, 26/6/29 (W.J.F.).*caudatus* (Thoms., C.G.)—Wykeham, 6/6/45 (W.D.H.).*dimidiatus* (Schrank)—Scarborough (G.B.W.).*pictus* (Grav.)—Fylinghall, 29/6/29, Ramsdale, 30/6/29 (W.J.F.).*signatus* (Grav.)—Fylinghall, 6/28, Robin Hood's Bay, 9/27 (W.J.F.).**PROMETHES** Foerster*cognatus* (Holmgr.)—Fylinghall, 6/28 (W.J.F.).*pulchellus* (Holmgr.)—Forge Valley, 22/6/24 (G.B.W.).**OPHION** Fabricius*luteus* (L.)—Fairly common, especially on the moors ; bred from *Spilosoma lutea* (Hufn.), 28/6/24 (G.B.W.).*stigmaticus* Morl.—Helwath Beck, 26/9/37 (H.B.).**ALLOCAMPTUS** Foerster*undulatus* (Grav.)—Fylingdale Moor, 13/7/35, m. (H.B.).**BLAPTOCAMPUS** Thomson, C. G.*nigricornis* (Wesm.)—Helwath Beck, 26/9/37 (H.B.).**AGRYPON** Foerster*flaveolatum* (Grav.)—Hole of Horcum, 4/8/37 (H.B.).**CAMPOPLEX** Gravenhorst*nitidulator* Holmgr.—Raincliffe Wood to Forge Valley, 12/6/43 (W.D.H.).**EULIMNERIA** Schmiedeknecht*albida* (Gmel. in L.)—Primrose Valley, Filey, 12/7/24 (G.B.W.).**NEMERITIS** Holmgren*macrocentra* (Grav.)—Staintondale, 24/5/24 (G.B.W.).*canescens* (Grav.)—Bred from *Ephestia sericarium* (Scott), Scarborough (G.B.W.).**PHOBOCAMPE** Foerster*crassiuscula* (Grav.)—Fylinghall, 6/28 (W.J.F.).**ECPHOROPSIS** Ashmead*fuscipes* (Holmgr.)—Ramsdale, 7/9/20 (W.J.F.).**NEPIERA** Foerster*collector* (Thunb.)—Robin Hood's Bay, 9/27 (W.J.F.).

**ANGITIA** Holmgren

*chrysosticta* (Gmel. in L.) var. *fenestralis* (Holmgr.)—Robin Hood's Bay, 9/27 (W.J.F.).

**ANILASTUS** Foerster

*notatus* (Grav.)—Fylinghall, 24/6/29 (W.J.F.).

**HOLOCREMNUS** Foerster

*argentatus* (Grav.)—Raincliffe Wood (G.B.W.).

**PARABATES** Foerster

*cristatus* Thoms., C. G.—Raincliffe Wood (G.B.W.).

**PANISCUS** Schrank

*testaceus* (Grav.)—Flixton, 14/6/43 (W.D.H.).

**MESOCHORUS** Gravenhorst

*fulgurans* Curt.—Forge Valley (G.B.W.).

*giberius* (Thunb.)—Forge Valley (G.B.W.).

**ORTHOPELMA** Taschenberg

*mediator* (Thunb.)—Bred in abundance from galls of *Rhodites rosae* L., and probably common all over the district.

**ISURGUS** Foerster

*morionellus* (Holmgr.)—By sweeping, Forge Valley, 5/5/23 (G.B.W.).

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## CYNIPOIDEA—GALL WASPS

## References:—

1. H. Britten fil.—personal record-book.
2. J. M. Brown—"Additional Plant Galls from the Scarborough District", *Naturalist*, 1920, pp.73-4.
3. H. J. Burkill—"Plant Galls observed near Scarborough, 1921", *Naturalist*, 1922, pp. 193-6.
4. W. Falconer—"Plant Galls from the Scarborough District", *Naturalist*, 1919, pp. 392-3.
5. G. B. Walsh—personal record-book.

## CYNIPIDAE

**RHODITES** Hartig

**rosae** (L.)—Common; from a gall found near Scalby were bred 13 males and 14 females, a most unusual occurrence in a species which is normally parthenogenetic (G.B.W.).

**spinossissimae** Gir.—Thornton-le-Dale (G.B.W.).

**eglanteriae** Hart.—Fairly common.

**LIPOSTHENUS** Foerster

**latreillei** (Kieff.)—Lady Edith's Drive on *Nepeta glechoma* (G.B.W.).

**GILLETTEA** Ashmead

**taraxaci** Ashm.—Scarborough (G.B.W.).

**AULACIDEA** Ashmead

**hypochoeridis** (Kieff.)—Ravenscar, 5/8/34 (H.B.).

**hieracii** (Bouché) — Near Ravenscar (H.J.B.); Scarborough (G.B.W.); Ramsdale (H.B.).

**XESTOPHANES** Foerster

**potentillae** (Retz.)—Oliver's Mount on *Potentilla reptans* (H.J.B.); Hackness (G.B.W.).

**brevitarsis** (Thoms., C. G.)—Brompton Moor and Staintondale (H.J.B.). Generally distributed on the moors between Robin Hood's Bay and the cliffs near Scalby Mills (J.M.B.).

**DIASTROPHUS** Hartig

**rubi** (Bouché)—Sleights, 2/5/35 (F. M. Sutcliffe); Grosmont, 9/5/36 (H.B.).

**BIORHIZA** Westwood

**pallida** (Oliv.)—Sleights, 17/5/36; Littlebeck, 13/9/36 (H.B.); Hackness Park (G.B.W.).

**ADLERIA** Rohwer and Fagan

**kollari** (Hart.)—Common and generally distributed; it varies in numbers a good deal from year to year.

**ANDRICUS** Hartig

**testaceipes** Hart.—Scarborough (J.M.B.).

**quercus-radici** (Fabr.)—Sleights, 17/5/36 (H.B.).

**f. trilineatus** Hart.—Sleights, Littlebeck (H.B.).

**quercus-corticis** (L.)—Sleights (H.B.).

**fecundator** (Hart.)—Common; Sleights (H.B.); Hayburn Wyke (H.J.B.); Seamer Moor, Raincliffe Wood (G.B.W.).

**f. pilosus** Adl.—Sleights (H.B.).

**ostreus** (Hart.)—Common and generally distributed.

**curvator** Hart. **f. collaris** (Hart.)—Beckhole, Sleights, Littlebeck (H.B.).

**albopunctatus** (Schlecht.)—Littlebeck (H.B.).

**marginalis** (Schlecht.)—Hayburn Wyke, one example (W.F.).

**quadrilineatus** Hart.—Sleights (H.B.).

**CYNIPS** Linnaeus

**quercus-folii** L.—Littlebeck, Bloody Beck (H.B.).

**f. taschenbergi** (Schlecht.)—Harwood Dale (H.J.B.).

**longiventris** Hart.—Ellerburn, Hayburn Wyke, Harwood Dale (H.J.B.); Littlebeck (H.B.).



*f. similis* Adl.—Raincliffe Wood (G.B.W.).

*divisa* Hart.—Common.

*f. verrucosa* (Schlecht.)—Common.

*agama* Hart.—Scarborough (J.M.B.) ; Harwood Dale (H.J.B.).

### NEUROTERUS Hartig

*tricolor* (Hart.) *f. fumipennis* Hart.—Sleights, Littlebeck (H.B.).

*albipes* (Schenck)—Fylinghall (H.J.B.).

*f. laeviusculus* Schenck—Hayburn Wyke, Bloody Beck (H.J.B.) ;  
Sleights, Littlebeck (H.B.) ; Scarborough (G.B.W.).

*quercus-baccarum* (L.)—Common.

*f. lenticularis* (Oliv.)—Common.

*numismalis* (Geoffr.)—Common.

*f. vesicator* (Schlecht.)—Common.

### FIGITES Latreille

*subapterus* Walk.—This species is not catalogued by Kloet and Hincks, but a single specimen taken at Scalby Mills in shore-refuse was referred by C. Morley to this inadequately described species, "Ent. Mag." II, p. 117. (G.B.W.).

## ACULEATA—ANTS, WASPS and BEES

The following records have been compiled from :—

Naturalist—1930, pp. 241-6, 363-9.

1931, pp. 155-8.

1932, pp. 233-6, 256-9, 279-82, 325-9.

1937, pp. 105-7.

(R.B. and W.J.F.).

Record book of the Scarborough Field Naturalists' Society.

Personal diary of H. Britten.

The initials refer to the following collectors :—

D.W.B.—D. W. Bevan

H.B.—H. Britten fil.

H.J.B.—H. J. Burkill

R.B.—R. Butterfield

F.E.—F. Elgee

W.J.F.—W. J. Fordham

W.C.H.—W. C. Hey

G.H.L.—G. H. Lowe

W.P.—W. Pearson

M.P.—M. Pittam

T.S.—T. Stainforth

E.A.W.—E. A. Wallis

G.B.W.—G. B. Walsh

## DRYINIDAE

### ANTEON Jurine

#### S. CHELOGYNUS Haliday

*fulviventre* (Hal.)—Ellerbeck, 3/8/36, (H.B.).

Homoptera parasitised by Dryinid larvae have been found commonly in Forge Valley, but the species is (are) unknown, (G.B.W.).

## CHRYSIDIDAE

## CHRYISIS Linnaeus

*ignita* (L.)—Common ; Fylinghall, (W.J.F.) ; Helwath Beck, Fen Bog, (H.B.) ; abundant in Holbeck Gardens, (G.B.W.).

*ruddii* Shuck.—Fen Bog, 11/7/37, (H.B.).

*viridula* L.—Common in Holbeck Gardens, (G.B.W.).

## SAPYGIDAE

## SAPYGA Latreille

*quinquepunctata* (Fabr.)—Burrows in palings, etc., Robin Hood's Bay, -/6/24 (W.J.F.).

## MUTILLIDAE

## MUTILLA Linnaeus

*europaea* L.—SOLITARY "ANT." Scarce but very widely distributed on the moors. Ellerburn Moor, (W.P.) ; Robin Hood's Bay, (F.E., T.S., numerous records) ; Lilla Cross, (E.A.W.) ; Stony Marl Moor, (G.B.W.) ; Wykeham Moor, (M.P.).

## FORMICIDAE

## FORMICOXENUS Mayr

*nitidulus* (Nyl.)—Occurs in the nests of *Formica rufa* and *F. pratensis*. Quite common at Barns Cliff, (G.B.W.) and Helwath Beck, (H.B.).

## MONOMORIUM Mayr

*pharaonis* (L.)—An introduced species, nests in a grocer's shop in Scarborough, (G.B.W.).

## MYRMICA Latreille

*laevinodis* Nyl.—RED ANT. : Common and widely distributed.

var. *ruginodis-laevinodis* For.—Hole of Horcum, 4/8/37, (H.B.).

*ruginodis* Nyl.—Common.

*sulcinodis* Nyl.—Robin Hood's Bay, (G.H.L.).

*scabrinodis* Nyl. var. *sabuleti* Mein.—North Cliff, Robin Hood's Bay, Beast Cliff, 1937, (G.H.L.).

*lobicornis* Nyl.—One nest each at North Cliff and Little Wood, Robin Hood's Bay and at Beast Cliff, 1937, (G.H.L.).

## LEPTOTHORAX Mayr

*acervorum* (Fabr.)—Chiefly in stumps of trees. Fairly common and widely distributed.

## LASIUS Fabricius

*niger* (L.)—BLACK ANT. Grosmont, Beckhole, Hole of Horcum, (H.B.) ; Harwood Dale, Silpho Moor, (G.B.W.).

*flavus* (Fabr.)—YELLOW ANT. Fairly common and widely distributed.

*umbratus* (Nyl.)—Robin Hood's Bay, (H.B.).

*mixtus* (Nyl.)—Robin Hood's Bay, (H.B.).

## FORMICA Linnaeus

*rufa* L.—WOOD ANT. Apparently commoner formerly than now.

Scarborough, common in woods, (T.W.) ; now very local. Barns Cliff ; of late a number of colonies have been started at the far end of Silpho Moor on the sides of the path running down to Whisperdales ; at first there were few myrmecophiles but the numbers of such species are now increasing, (G.B.W.) ; Helwath Beck, (H.B., G.B.W.).

var. **rufo-pratensis** For.—Jugger Howe Dale, (G.H.L.) ; Helwath Beck, both females and workers, (H.B.).

var. **alpina** Santschi—Helwath Beck, 5/7/37, (H.B.).

**pratensis** Retz.—Helwath Beck, (H.B.).

Dr. I. H. H. Yarrow (Trans. Soc. Brit. Ent., Vol. 12, Part 1, 1955) considers that the *Formica rufa* group consists of four distinct species, **F. rufa** L. and **F. nigricans** Emery in the south and **F. lugubris** Zett. and **F. aquilonia** Yarr. in the north. All Yorkshire wood ants are referable to **F. lugubris**, specimens sent to the British Museum (Natural History) have been confirmed as this species (Feb., 1956). Accordingly all references to **Formica rufa** or its varieties, or to **F. pratensis** in this volume should be emended to read **Formica lugubris** Zett.

**fusca** L.—Common and generally distributed.

var. **rubescens** For.—Fylingdales Moor, 5/9/36, (H.B.).

#### POMPILIDAE

##### PRIOCNEMIS Schioedte

**perturbator** (Harr., M.)—Levisham, preys on spiders, -/6/24, (R.B.).

**minor** (Zett.)—Goathland, 14/9/35, (H.B.).

**exaltatus** (Fabr.)—Robin Hood's Bay, -/9/27, (W.J.F.).

**pusillus** Sch.—Scarborough, (H.J.B.).

**gracilis** Haupt—Fylingdales Moor, 5/9/36, (H.B.).

##### POMPILUS Fabricius

**trivialis** Dahlb.—Scarborough, (D.W.B.).

#### VESPIDAE

##### ODYNERUS Latreille

**spinipes** (L.)—Burrows in banks and makes a projecting tunnel of grains of sand, etc. Fylinghall, 21/6/24, and -/6/28 (W.J.F.) ; Scarborough, at bottom of path through Holbeck Gardens, -/6/34, (G.B.W.).

##### ANCISTROCERUS Wesmael

**callosum** (Thoms., C.G.)—Flixton sand-pits, (W.D.H., "Nat," 1943, p. 123).

**parietum** (L.)—West Ayton, plentiful on flowers of **Centaurea** and **Epilobium** (W.C.H.) ; Scarborough, common, (G.B.W.).

**pictus** (Curt.)—Scarborough Mere, 13/6/43, (W.D.H.).

**trimarginatus** (Zett.)—Fylinghall, -/6/28, (W.J.F.).

##### SYMMORPHUS Wesmael

**sinuatissimus** Rich.—Fylinghall, 26/6/29, (W.J.F.).

##### VESPULA Thomson, C. G.

**vulgaris** (L.)—Very common.

*germanica* (Fabr.)—Common.

*rufa* (L.)—Fairly common and widely distributed. Very fond of the flowers of *Centaurea*, *Cotoneaster* and *Pyrus japonica*, (W.C.H.).

*austriaca* (Panz.)—Goathland, a female, (R.B.).

*sylvestris* (Scop.)—Scarborough district, common, (G.B.W.) ; Fylinghall, (W.J.F.) ; Sleights, (H.B.).

*norvegica* (Fabr.)—Common; males on *Heraclium* in July (W.C.H.). Nests in gooseberry bushes.

## SPHECIDAE

### TRYPOXYLON Latreille

*figulus* (L.)—Fylinghall, -/6/26, (W.J.F.) ; Fen Bog, 11/7/37, (H.B.).

*clavicerum* Lep.—Helwath Beck, 26/7/35, (H.B.).

### PEMPHREDON Latreille

*lugubris* (Fabr.)—Helwath Beck, 3/8/35, (H.B.) ; Fylinghall, 26/6/29, (W.J.F.).

### CEMONUS Panzer

*shuckardi* Mor.—Robin Hood's Bay, 24/6/24, a male with abnormal neururation, the recurrent nervure nearly absent, (W.J.F.).

### PASSALOECUS Shuckard

*monilicornis* Dahlb.—Sleights, 28/7/35, (H.B.).

### MIMESA Shuckard

*shuckardi* Wesm.—Thorpe, 24/6/24, (W.J.F.).

### PSENUlus Kohl

*atratus* (Fabr.)—Robin Hood's Bay, -/9/27, (W.J.F.).

### CRABRO Fabricius

*cribarius* (L.)—Probably common ; Crosscliff, m. and f., July-Aug., 1915 (D.W.B.).

### COELOCRABRO Thomson, C. G.

*walkeri* (Shuck.)—Goathland, 14/7/35, (H.B.).

*leucostomus* (L.)—Goathland, 14/7/35; Sleights, 28/7/35; Beckhole, 9/6/36, (H.B.).

### CROSSOCERUS Lepeletier and Brullé

*palmipes* (L.)—Goathland, 14/7/35, Helwath Beck, 3/8/35, (H.B.).

*varus* Lep. & Brull.—Helwath Beck, 3/8/35, Goathland, 14/7/35, (H.B.) ; Flixton sand-pits, 13/6/43, (W.D.H.).

*elongatulus* (v. d. Lind.)—Hayburn Wyke, 4/9/20, (W.J.F.) ; nesting in stone walls, Scarborough, Ruston, Mowthorpe (D.W.B.).

### BLEPHARIPUS Lepeletier and Brullé

*dimidiatus* (Fabr.)—Hayburn Wyke, 4/9/20, (W.J.F.).

*confusus* (Schulz)—Helwath Beck, 20/7/35, (H.B.).

### CLYTOCHRYsus Morawitz

*planifrons* (Thoms., C.G.)—Hackness, with the next species.

*cavifrons* (Thoms., C.G.)—Helwath Beck, 20/7/36, (H.B.) ; Hackness, 11/7/36, (C.A.C., Nat., 1936, p. 210).

*chrysostomus* (Lep. & Brull.)—Beckhole, 3/8/36, (H.B.) ; Hole of Horcum, 30/6/37, (H.B.).

**SOLENIUS** Lepeletier and Brullé

**continuus** (Fabr.)—Raincliffe Wood, 13/6/43, (W.D.H., Nat., 1943, p. 122).

**RHOPALUM** Stephens

**clavipes** (L.)—Ellerbeck, 8/8/36, Sleights, 28/7/35, Hole of Horcum, 26/6/37, 4/8/37, (H.B.); Raincliffe Wood, 13/6/43, (W.D.H., Nat., 1943, p. 122).

**LINDENIUS** Lepeletier and Brullé

**albilabris** (Fabr.)—Near Raincliffe Wood, 1918 (D.W.B.).

**NYSSON** Latreille

**spinus** (Forst.)—Raincliffe Wood, 11/6/43, taken with **Gorytes mystaceus**, its host, (W.D.H.).

**GORYTES** Latreille

**mystaceus** (L.)—Fylinghall, 6/6/28, (W.J.F.); Scarborough Mere, 11/6/43, (W.D.H.).

**MELLINUS** Fabricius

**arvensis** (L.)—Wykeham in large numbers, m. and f., 6/8/18 (D.W.B.).

## APIDAE

**COLLETES** Latreille

**succincta** (L.)—Scarborough, (D.W.B.); Fylingdales Moor, 5/9/36, (H.B.); Ravenscar, (W.J.F.).

**fodiens** (Geoff.)—Fylingdales Moor, males, 5/9/36, (H.B.). Its parasite is **Epeolus variegatus** (L.).

**HALICTUS** Latreille

**rubicundus** (Christ)—Common. Its inquiline is **Sphecodes gibbus** (L.).

**calceatus** (Scop.)—Common on ragwort.

**albipes** (Fabr.)—Common on yellow composites.

**fratellus** Pér. — Scarborough, (D.W.B.); Staintondale, 4/9/20, (W.J.F.).

**nitidiusculus** (Kirby, W.)—Scarborough, (D.W.B.); Goathland, 14/9/35, (H.B.). Its inquiline is **Nomada sheppardana** (Kirby, W.).

**rufitarsis** Zett.—Egton Bridge, 1/6/35, (H.B.).

**tumulorum** (L.)—Scarborough, (D.W.B.); Goathland, (R.B., H.B.); Littlebeck, 25/8/35, (H.B.).

**smeathmanellus** (Kirby, W.)—Common. Scarborough, (D.W.B.); Staintondale, 4/9/20, (W.J.F.); Ellerbeck, 8/8/36, Sleights, 17/5/36, Beckhole, 1/6/36, (H.B.).

**leucopus** (Kirby, W.)—Scarborough, (D.W.B.).

**SPHECODES** Latreille

**gibbus** (L.)—Scarborough, (D.W.B.), associated with **Halictus rubicundus** (Christ).

**monilicornis** (Kirby, W.)—Scarborough, (D.W.B.), associated with **Halictus** spp. and **Andrena flavipes** Panz.

**fasciatus** (von Hag.)—Scarborough, (D.W.B.), associated with **Halictus** spp.

**ANDRENA** Fabricius

**haemorrhoea** (Fabr.)—Common in spring on sallow bloom. At times many hundreds of burrows are found in close proximity. Parasitised by **Nomada ruficornis** (L.).

**nigroaenea** (Kirby, W.)—Scarborough, (D.W.B.).

**bicolor** (Fabr.)—Scarborough, (D.W.B.).

**angustior** (Kirby, W.)—Helwath Beck, 1/5/37, (H.B.).

**jacobi** Perk., R. C. L.—Common. Parasitised by **Nomada marshamella** and **N. flava** Panz.

**fucata** Smith, F.—Robin Hood's Bay, male, 14/6/24, (W.J.F.).

**lapponica** Zett.—Helwath Beck, 1/5/37, (H.B.).

**clarkella** (Kirby, W.)—Fairly common on sallow catkins. Parasitised by **Nomada leucophthalma** (Kirby, W.).

**fuscipes** (Kirby, W.)—Scarborough, (D.W.B.) ; Goathland, 14/9/35, (H.B.).

**saundersella** Perk., R. C. L.—Scarborough, (D.W.B.) ; Egton Bridge, 1/6/35, (H.B.).

**wilkella** (Kirby, W.)—Robin Hood's Bay, male, 14/6/25, (W.J.F.) ; Goathland, (R.B.).

**MELECTA** Latreille

**punctata** (Fabr.)—Scarborough, (D.W.B.). Parasitic on **Anthophora acervorum** (L.).

**NOMADA** Scopoli

**stigma** Fabr.—Scarborough, (D.W.B.). Attached to **Andrena humilis** Imh.

**goodeniana** (Kirby, W.)—Scarborough, (D.W.B.) ; Ravenscar, 1/9/20, (W.J.F.). Parasitic on **Andrena pubescens** Oliv., **A. nigroaenea** (Kirby, W.) and **A. thoracica** (Fabr.).

**lathburiana** (Kirby, W.)—Levisham, -/6/24, (R.B.). Parasitic on **Andrena cineraria** (L.).

**marshamella** (Kirby, W.)—Common. Parasitic on **Andrena jacobi** Perk., R. C. L.

**ruficornis** (L.)—Common. Parasitic on several spp. on **Andrena**.

**leucophthalma** (Kirby, W.)—Scarborough, (D.W.B.). Occurs with **Andrena clarkella** (Kirby, W.).

**fabriciana** (L.)—Common in April and May. Parasitic on **Andrena nigroaenea** (Kirby, W.), **A. bicolor** (Fabr.), and **A. angustior** (Kirby, W.).

**flavoguttata** (Kirby, W.)—Hole of Horcum, 12/6/37, (H.B.). Parasitic on **Andrena saundersella** Perk., R.C.L., **A. subopaca** Nyl., and **A. parvula** (Kirby, W.).

**MEGACHILE** Latreille

**centuncularis** (L.)—Scarborough, cutting rose leaves, fairly common, (D.W.B.).

**ligniseca** (Kirby, W.)—Scarborough, (D.W.B.).

**COELIOXYS** Latreille

**elongata** Lep.—Scarborough, occurs with **Megachile** spp., and **Osmia rufa** (L.).

*inermis* (Kirby, W.)—Scarborough, (D.W.B.). Associated with *Megachile centuncularis* (L.).

### **OSMIA** Panzer

*rufa* (L.)—Scarborough, (D.W.B.) ; common, (G.B.W.).

### **BOMBUS** Latreille

*terrestris* (L.)—Very common, our earliest **Bombus**.

*lucorum* (L.)—Common.

*lapidarius* (L.)—Common.

*pratorum* (L.)—Common, especially on flowers of **Rubus**, (W.C.H.).

*jonellus* (Kirby, W.)—Very common at West Ayton on flowers of *Campanula glomerata* (W.C.H.).

*lapponicus* (Fabr.)—Sleights (Dr. Robson).

*hortorum* (L.)—Common ; at West Ayton it varies very much in size, (W.C.H., 1882).

*subterraneus* (L.)—Scarborough, (D.W.B.), a dark form common at West Ayton, (W.C.H.).

*distinguendus* Mor.—Queens in Yedmandale in May on **Orchis mascula**, with pollinia on their heads ; later many queens and workers, generally on **Carduus lanceolatus**. Particularly abundant in upland lanes towards the moors, (W.C.H.).

*runderarius* (Muell., O. F.)—Goathland, -/6/24 (R.B.).

*sylvarum* (L.)—West Ayton, not plentiful, (W.C.H.) ; Scarborough, a worn female, (D.W.B.).

*agrorum* (Fabr.)—Very common ; at West Ayton, (1908) it varied very much in colour, the abdomen in some males being black.

*muscorum* (L.)—West Ayton, -/8/08, on **Carduus lanceolatus** ; on the carrs and in a clover field, (W.C.H.).

### **PSITHYRUS** Lepeletier

*rupestris* (Fabr.)—Parasitic on **Bombus lapidarius** (L.). Ravenscar, male, -/9/30, (W.J.F.) ; East Ayton, female, (W.C.H.) ; Seamer Moor, males common on knapweed at end of August, 1908, (W.C.H.).

*vestalis* (Geoffr.)—Parasitic on **Bombus terrestris** (L.), West Ayton carrs on ragwort, (W.C.H.) ; Robin Hood's Bay, -/6/24, (W.J.F.).  
var. *amoenus*—Two specimens on the carrs near West Ayton, (W.C.H.).

*barbutellus* (Kirby, W.)—Parasitic on **Bombus hortorum** (L.). Scarborough, (D.W.B.). West Ayton, fairly common in gardens, (W.C.H.).

*campestris* (Panz.)—Parasitic on **Bombus agrorum** (Fabr.). West Ayton, large numbers of males on knapweed in lane to Seamer Moor. Forge Valley, a black variety, -/9/08, (W.C.H.) ; Scarborough, (D.W.B.) ; Goathland, (R.B.).

*sylvestris* Lep.—Parasitic on **Bombus pratorum** (L.). West Ayton, not uncommon in gardens, (W.C.H.) ; Scarborough, (D.W.B.).

### **APIS** Linnaeus

*mellifera* (L.)—Very common.



# Order DIPTERA — TWO-WINGED FLIES

G. B. Walsh

The following list of local Diptera has been compiled from the undermentioned sources :—

- a. The record-books of H. Britten fil., the late W. J. Fordham, and G. B. Walsh ;
- b. The record-book of local galls compiled by J. M. Gloag ;
- c. The lists of flies captured on excursions of the Yorkshire 'Naturalists' Union within our area and published in the 'Naturalist' ;
- d. The lists of local galls published in the 'Naturalist'.

Most of the species collected by W. J. Fordham and G. B. Walsh were identified by highly competent authorities. The whole of Dr. Fordham's collection was destroyed by enemy action in Hull. We are deeply indebted to Mr. R. L. Coe for his very helpful advice and for checking the list and to the late Mr. C. A. Cheetham for help and advice extending over many years.

The following initials are used :—

R.S.B.—R. S. Bagnall	J.M.G.—J. M. Gloag
E.G.B.—E. G. Bayford	E.F.G.—E. F. Gilmour
H.B.—H. Britten fil.	P.H.G.—P. H. Grimshaw
J.M.B.—J. M. Brown	J.W.H.H.—J. W. Heslop Harrison
H.J.B.—H. J. Burkill	W.D.H.—W. D. Hincks
C.A.C.—C. A. Cheetham	E.C.H.—E. C. Horrell
F.W.E.—F. W. Edwards	W.D.R.—W. D. Roebuck
W.F.—W. Falconer	H.W.T.—H. W. Thompson
W.J.F.—W. J. Fordham	A.J.W.—A. J. Wallis
G.E.F.—G. E. Frisby	G.B.W.—G. B. Walsh
V.C.H.—Victoria County History	

## ORTHORRHAPHA

### NEMATOCERA

#### TIPULIDAE — DADDY-LONG-LEGS, CRANE-FLIES

##### TIPULA Linnaeus

##### S. ACUTIPULA Alexander

*fulvipennis* De G.—Pickering, 8/6/43, Hackness, 11/7/36 (C.A.C.).

*maxima* Poda—Widely distributed.

##### S. SCHUMMELIA Edwards, F. W.

*variicornis* Schumm.—Pickering, 4-6/6/38 (C.A.C.).

##### S. VESTIPLEX Bezzi

*scripta* Meig.—Widely distributed.

##### S. TIPULA s. s.

*variipennis* Meig.—Widely distributed.

- hortulana* Meig.—Robin Hood's Bay, 23/6/24 (H.B.); Pickering, 4-6/6/38 (C.A.C.).
- rufina* Meig.—Sleights, 29/9/37 (H.B.).
- unca* Wied.—Fylinghall, 1928 (W.J.F.); Hackness, 11/7/36 (C.A.C.).
- marmorata* Meig.—Hole of Horcum, 31/8/37 (H.B., C.A.C., F.W.E.).
- obsoleta* Meig.—Goathland, 30/9/37 (H.B.).
- staegeri* Niels.—Goathland, 30/9/37, Sleights, 2/10/37 (H.B.).
- oleracea* (L.)—Common.
- paludosa* Meig.—Common.
- vernalis* Meig.—Pickering, 4-6/6/38, Wykeham, 6/6/45 (C.A.C.).
- lateralis* Meig.—Common.
- pruinosa* Wied.—Fylinghall, 1928 (W.J.F.).
- luteipennis* Meig.—Helwath Beck, 26/9/37 (H.B.).
- pagana* Meig.—Hole of Horcum, 31/8/37, Sleights, 29/9/37, Goathland, 30/9/37 (H.B.).
- luna* Westh.—Fylinghall, 1928 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).
- S. LUNATIPULA** Edwards, F. W.
- fascipennis* Meig.—Scarborough, 11/6/43 (C.A.C.).
- cava* Ried.—Hackness, 11/7/36 (C.A.C.).
- NEPHROTOMA** Meigen
- crocata* (L.)—Not uncommon at Scarborough (G.B.W.).
- flavipalpis* (Meig.)—Ramsdale, 7/9/20 (W.J.F.).
- maculata* (Meig.)—Widely distributed.
- flavescens* (L.)—Hackness, 11/7/36, Wykeham, 6/6/45 (C.A.C.).
- TANYPTERA** Latreille
- strata* (L.)—Sleights, 1936 (H.B.).
- CTENOPHORA** Meigen
- pectinicornis* (L.)—Pickering, 4-6/6/38, (C.A.C.); bred from larvae in rotten wood, Raincliffe Wood, 1924 (G.B.W.).
- CYLINDROTOMA** Macquart
- distinctissima* (Meig.)—Pickering, 4-6/6/38, Wykeham, 6/6/45 (C.A.C.).
- LIMONIA** Meigen
- S. LIMONIA** s. s.
- nubeculosa* Meig.—Pickering, 4-6/6/38 (C.A.C.).
- flavipes* (Fabr.)—With the last.
- tripunctata* (Fabr.)—With the last; Wykeham, 6/6/45 (C.A.C.).
- macrostigma* Schumm.—Helwath Beck, 26/9/37 (H.B.); Hackness, 11/7/36 (C.A.C.).
- S. RHIPIDIA** Meigen
- maculata* (Meig.)—Sleights, 29/9/37; Goathland, 30/9/37 (H.B.).
- PEDICIA** Latreille
- S. PEDICIA** s. s.
- rivosa* (L.)—Sleights, 29/9/37 (H.B.); Ramsdale, 1933 (Y.N.U. Excn.); Levisham (W.D.R.).

**S. CRUNOBIA** Kolenati

*straminea* Meig.—Sleights, 29/9/37 (H.B.).

**S. TRICYPHONA** Zetterstedt

*immaculata* (Meig.)—Widely distributed.

**EPIPHRAGMA** Osten-Sacken

*ocellaris* (L.)—Pickering, 4-6/6/38, Wykeham, 6/6/45 (C.A.C.).

**AUSTROLIMNOPHILA** Alexander

*ochracea* (Meig.)—Ravenscar, 8/6/24 (P.H.G.); Pickering, 4-6/6/38., Wykeham, 6/6/45 (C.A.C.).

**LIMNOPHILA** Macquart**S. PHYLIDOREA** Bigot

*meigeni* Verr.—Hackness, 11/7/36 (C.A.C.).

*phaeostigma* (Schumm.)—Ravenscar, 8/6/24 (P.H.G.).

*ferruginea* (Meig.)—Fylinghall, 1928 (W.J.F.).

**S. ELAEOPHILA** Rondani

*mundata* (Loew, H.)—Fylinghall, 1928 (W.J.F.).

*submarmorata* (Verr.)—Fylinghall, 1928 (W.J.F.).

**S. LIMNOPHILA** s. s.

*pictipennis* (Meig.)—Levisham, 13/5/95 (W.D.R.).

**S. PILARIA** Sintenis

*nemoralis* (Meig.)—Wykeham, 6/6/45 (C.A.C.).

**CRYPTERIA** Bergroth

*limnophiloides* Bergr.—Goathland, 4/9/37 (H.B.).

**LIPSOTHRIX** Loew, H.

*remota* (Walk.)—Pickering, 4-6/6/38 (C.A.C.).

**CHEILOTRICHIA** Rossi**S. GONEMPEDA** Alexander

*flava* (Schumm.)—Sleights, 29/9/37 (H.B.).

**S. PLATYTOMA** Lioy

*cinerascens* (Meig.) (= *Empeda nubila* Schumm.)—Pickering, 4-6/6/38 (C.A.C.).

**ERIOPTERA** Meigen

*lutea* Meig., var *taenionotata* Meig.—Pickering, 4-6/6/38 (C.A.C.).

*fuscipennis* Meig.—Robin Hood's Bay, 1927 (W.J.F.).

*trivialis* Meig.—Ravenscar, 8/6/24 (P.H.G.).

**ORMOSIA** Rondani**S. ORMOSIA** s. s.

*lineata* (Macq.)—Ravenscar (Y.N.U. Excn., 1924).

*nodulosa* (Macq.)—Ravenscar (Y.N.U. Excn., 1924).

**S. RHYPHOLOPHUS** Kolenati

*varia* (Meig.)—Goathland, 4/9/37 (F.W.E.); Helwath Beck, 26/9/37 (H.B.).

*haemorrhoidalis* (Zett.)—Fylinghall, 1928 (W.J.F.); Hole of Horcum, 31/8/37 (H.B.).

**MOLOPHILUS** Curtis

*griseus* (Meig.)—Helwath Beck, 26/9/37 (H.B.).

*serpentiger* Edw., F. W.—Wykeham, 6/6/45 (C.A.C.).

*appendiculatus* (Staeg.)—Wykeham, 6/6/45 (C.A.C.).

## TRICHO CERIDAE — WINTER-GNATS

## TRICHO CERA Meigen

*regelationis* (L.)—Very common.*hiemalis* (De G.)—Very common.

## ANISOPODIDAE

## ANISOPUS Meigen

*fenestralis* (Scop.)—Widely distributed.*punctatus* (Fabr.)—Fylinghall (W.J.F.); Scarborough (V.C.H.).

## PTYCHOPTERIDAE

## PTYCHOPTERA Meigen

*albimana* (Fabr.)—Fylinghall, 20/6/24, Robin Hood's Bay, 1927 (W.J.F.).*scutellaris* (Meig.)—Ravenscar, 8/6/24 (P.H.G.).*paludosa* (Meig.)—Fylinghall, 24/6/29 (W.J.F.); Wykeham, 6/6/45 (C.A.C.).*lacustris* (Meig.)—Forge Valley, 3/8/22, Fylinghall, 1928 (W.J.F.).

## PSYCHODIDAE

## PERICOMA Haliday

*nubila* (Meig.)—Ravenscar, 8/6/24 (P.H.G.).

## CULICIDAE—GNATS, MOSQUITOES

## DIXA Meigen

*nebulosa* Meig.—Goathland, 30/9/37 (H.B.).*puberula* Loew, H.—Sleights, 29/9/37 (H.B.).*submaculata* Edw., F. W.—Sleights, 29/9/37 (H.B.).

## ANOPHELES Meigen — MOSQUITOES

*claviger* (Meig.)—Muston (Brit. Mus. Handbook).*maculipennis* Meig.—Flamborough, Filey, Cayton, Scarborough, Harwood Dale (Brit. Mus. Handbook); Filey, 1927 (W.J.F.).

## THEOBALDIA Neveu-Lemaire

*annulata* (Schränk.)—Filey, 8/22 (W.J.F.).

## CULEX Linnaeus — GNATS

*pipiens* L.—Very common.

## CHIRONOMIDAE

## HYDROBAENUS Fries

## S. LIMNOPHYTES Eaton

*minimus* (Meig.)—Robin Hood's Bay, (W.J.F.).

## CHIRONOMUS Meigen

*plumosus* (L.) var. *ferrugineovittatus* Zett.—PLUMED GNAT. Fylinghall, 1929 (W.J.F.); Scarborough (G.B.W.).*dorsalis* Meig.—Robin Hood's Bay, 8/6/24 (P.H.G.).

## CERATOPOGONIDAE — MIDGES

## FORCIPOMYIA Meigen

*nigra* (Winn.)—Scarborough (H.J.B., Ann. Bot., 1895).

## CULICOIDES Latreille

*obsoletus* (Meig.)—Common.

## SIMULIIDAE

**SIMULIUM** Latreille

**reptans** (L.)—Pickering, 4-6/6/38 (C.A.C.).

## BIBIONIDAE

**BIBIO** Geoffroy

**leucopterus** (Meig.)—Robin Hood's Bay, 3/6/24, Fylinghall, 8/6/24 (W.J.F.); Scarborough, 6/27 (G.B.W.).

**pomona** (Fabr.)—Common.

**marci** (L.)—ST. MARK'S FLY. Common, 'bred from old stack refuse (G.B.W.).

**lepidus** Loew, H.—Scarborough (H.J.B.).

**laniger** Meig.—Ants' nest, Robin Hood's Bay, 1933 (Y.N.U. Excn.); Saltergate Moor, 12/5/95 (W.D.R.).

**DILOPHUS** Meigen

**febrilis** (L.)—In enormous swarms, Scarborough, 22/5/39 (G.B.W.).

**femoratus** (Meig.)—Robin Hood's Bay, 3/6/24 (W.J.F.).

**bispinosus** (Lundstr.)—Scarborough, 1897 (H.J.B.).

## SCATOPSIDAE

**SWAMMERDAMELLA** Enderlein

**brevicornis** (Meig.)—Scarborough, 1895 (H.J.B.).

**SCATOPSE** Geoffroy

**notata** (L.)—Scarborough, 1897 (H.J.B.); Goathland, 8/9/20 (W.J.F.); Sleights, 29/9/37 (H.B.).

**flavicollis** Meig.—Staintondale, 13/9/27 (W.J.F.); Goathland, 30/9/37, Sleights, 29/9/37 (H.B.).

## MYCETOPHILIDAE — FUNGUS GNATS

**BOLITOPHILA** Meigen

**occlusa** Edw., F. W.—Wykeham, 6/6/45 (C.A.C.).

**hybrida** (Meig.)—Sleights, 29/9/37 (H.B.).

**cinerea** Meig.—Helwath Beck, 26/9/37 (H.B.).

**MACROCERA** Meigen

**stigma** Curt.—Robin Hood's Bay, 20/6/24 (W.J.F.).

**MYCOMYIA** Rondani

**cinerascens** (Macq.)—Wykeham, 6/6/45 (C.A.C.).

**tenuis** (Walk.)—Sleights, 29/9/37 (H.B.).

**NEURATELIA** Rondani

**memoralis** (Meig.)—Beckhole, 1/6/36 (H.B.); Pickering, 4-6/6/38 (C.A.C.).

**MONOCLONA** Mik

**rufilatera** (Walk.)—Pickering, 4-6/6/38 (C.A.C.).

**BOLETINA** Staeger

**trivittata** (Meig.)—Widely distributed.

**plana** Walk.—Beckhole, 1/6/36 (H.B.).

**basalis** (Meig.)—With the last.

**EXECHIA** Winnertz

**subulata** Winn.—Goathland, 4/9/37 (F.W.E.).

**RHYMOSIA** Winnertz*cristata* (Staeg.)—Pickering, 4-6/6/38 (C.A.C.).*fenestralis* (Meig.)—Beckhole, 18/7/36 (H.B.).**ALLODIA** Winnertz*ornaticollis* (Meig.)—Robin Hood's Bay, 1927 (W.J.F.).*sericoma* (Meig.)—Helwath Beck, 26/9/37 (H.B.).**CORDYLA** Meigen*crassicornis* Meig.—Sleights, 29/9/37 (H.B.).*pusilla* Edw., F. W.—Sleights, 29/9/37 (H.B.).**PHRONIA** Winnertz*annulata* Winn.—Helwath Beck, 26/9/37 (H.B.).*cinerascens* Winn.—Beckhole, 1/6/36 (H.B.).**MYCETOPHILA** Meigen*lineola* Meig.—Sleights, 1/6/36, Helwath Beck, 26/9/37 (H.B.).*vittipes* Zett.—Wykeham, 6/6/45 (C.A.C.).*finlandica* Edw., F. W.—Beckhole, 1/6/36 (H.B.).*signatoides* Dziedz.—Helwath Beck, 26/9/37 (H.B.).*obscura* Dziedz.—Pickering, 4-6/6/38 (C.A.C.).**SCIARA** Meigen**S. SCIARA** s. s.*trochanterata* Zett.—Pickering, 4-6/6/38, Wykeham, 6/6/45 (C.A.C.).**S. PSILOMEGALOSPHEYS** Enderlein*flavipes* Meig.—Forge Valley, 3/8/22 (W.J.F.).**S. BRADYSIA** Winnertz*carbonaria* Meig.—In myriads, Scarborough and along the coast, 22/5/39 (G.B.W.).

## CECIDOMYIIDAE — GALL-GNATS

**LASIOPTERA** Meigen*rubri* Heeg.—Scarborough (R.S.B. & J.W.H.H.); Forge Valley (G.B.W.).**RHABDOPHAGA** Westwood*albipennis* (Loew, H.)—Very common on *Salix* spp.*heterobia* (Loew, H.)—On *Salix cinerea*, Jagger Howe Dale, 1921 (H.J.B.).*marginemtorquens* (Winn.)—Very common on *Salix* spp.*nervorum* (Kieff.)—Common on *Salix* spp.*rosaria* (Loew, H.)—Common on *Salix* spp.*rosariella* Kieff.—Harwood-dale, Biller Howe Dale, 1921 (H.J.B.).*salicis* (Schr.)—Common.*terminalis* (Loew, H.)—Abundant.**DASYNEURA** Rondani*acrophila* (Winn.)—On *Fraxinus*. Generally distributed.*cirsii* (Ruebs.)—Common and generally distributed.*crataegi* (Winn.)—Abundant.*filicina* (Kieff.)—Common and generally distributed.*fraxinea* (Kieff.)—Somewhat uncommon on *Fraxinus*.*fraxini* (Kieff.)—With the last.

**fructuum** (Ruebs.)—Common.

**galiicola** (Loew, F.)—Common on **Galium verum**.

**hygrophila** (Mik.)—Jugger Howe Dale on **Galium palustre** (H.J.B.).

**kiefferiana** (Ruebs.)—Scarborough on **Chamaenerion angustifolium** (J.M.B.).

**lathyri** (Kieff.)—On **Lathyrus pratensis**, common.

**lathyricola** (Ruebs.)—Ravenscar, Cayton Bay (J.M.B.).

**plicatrix** (Loew, H.)—On **Rubus**, Raincliffe Wood and Robin Hood's Bay (W.F.).

**pustulans** (Ruebs.)—Common on **Filipendula ulmaria**.

**ranunculi** (Bremi-Wolf)—Fairly common.

**serotina** (Winn.)—Near Falcon Inn, on **Hypericum humifusum** (H.J.B.).

**tortrix** (Loew, F.)—Scarborough, common on wild **Prunus domestica** (W.F.).

**tubicola** (Kieff.)—On **Sarothamnus scoparius** on Hardhurst Moor (H.J.B.).

**ulmariae** (Bremi-Wolf)—Common.

**urticae** (Perr.)—Very common.

**viciae** (Kieff.)—On **Vicia cracca**, common.

#### **JAAPIELLA** Ruebsaamen

**cirsiicola** (Ruebs.)—Widely distributed.

**loticola** (Ruebs.)—Not uncommon on **Lotus** spp.

**veronicae** (Vall.)—Very common.

**volvens** Ruebs.—Not uncommon.

#### **LATHROMYZA** Ruebsaamen

**schlechtendali** (Kieff.)—Scarborough, Ravenscar on **Lathyrus montanus** (H.J.B.).

#### **GEOCRYPTA** Kieffer

**galii** (Loew, H.)—Common.

#### **WACHTLIELLA** Ruebsaamen

**persicariae** (L.)—Common.

**rosarum** (Hardy)—Fairly common.

#### **MACROLABIS** Kieffer

**corrugans** (Loew, H.)—On **Heracleum sphondylium**. Widely distributed.

#### **MIKIOLA** Kieffer

**fagi** (Hart., T.)—Danes Dyke (W.F.); Hayburn Wyke (G.B.W.); uncommon.

#### **PEMPHIGOCECIS** Ruebsaamen

**ventricola** (Ruebs.)—Fairly common on **Molinia caerulea** (L.) on the moors.

#### **HARTIGIOLA** Ruebsaamen

**annulipes** (Hart., T.)—On **Fagus**, widely distributed.

#### **RONDANIOLA** Ruebsaamen & Hedicke

**bursaria** (Bremi-Wolf)—On **Nepeta**, Scarborough (G.B.W.); Ravenscar (H.J.B.).

#### **MIKOMYIA** Kieffer

**coryli** (Kieff.)—Raincliffe Wood (G.B.W. and J.M.G.).



**RHOPALOMYIA** Ruebsaamen

*millefolii* (Loew, H.)—Common, but overlooked.

**ASPHONDYLIA** Loew, H.

*mayeri* Lieb.—On *Sarothamnus*, Hardhurst Moor (H.J.B.).

*ulicis* Verr.—Very common.

**CONTARINIA** Rondani

*acerplicans* (Kieff.)—Robin Hood's Bay (H.J.B.).

*anthobia* Loew, F.—Well distributed.

*barbichei* (Kieff.)—Common on *Lotus corniculatus*.

*betulina* (Kieff.)—Beast Cliff (H.J.B.).

*craccae* Kieff.—Common.

*floriperda* Ruebs.—Common on flowers of *Sorbus aucuparia* (R.S.B. and J.W.H.H.).

*loti* De G.—Cornelian Bay (H.J.B.).

*steinii* (Karsch.)—Widely distributed.

*tiliarum* (Kieff.)—Scarborough, uncommon (J.M.G. and G.B.W.).

**MACRODIPLOSIS** Kieffer

*dryobia* (Loew, H.)—Bloody Beck (W.J.F.); Scarborough (J.M.B.).

**PUTONIELLA** Kieffer

*marsupialis* (Loew, F.)—Helwath Beck, 4/7/27 (H.B.).

**BRACHYCERA****STRATIOMYIDAE****BERIS** Latreille

*vallata* (Forst.)—Fairly common.

*geniculata* Curt.—Fylinghall, 29/6/29, Forge Valley, 3/8/22 (W.J.F.); Gristhorpe Bay, 3/7/48 (C.A.C.).

*morrisii* Dale, J. C.—Scarborough Mere, 11/6/43 (C.A.C.).

**MICROCHRYSA** Loew, H.

*polita* (L.)—Fylinghall, 26/9/29, 18/6/31 (W.J.F.).

*cyaneiventris* (Zett.)—Robin Hood's Bay, 12/6/24 (W.J.F.).

**GEOSARGUS** Bezzi

*cuprarius* (L.)—Robin Hood's Bay, 2/9/27 (W.J.F.).

*iridatus* (Scop.)—Fylinghall, 1928 (W.J.F.).

**CHLOROMYIA** Duncan

*formosa* (Scop.)—Fylinghall, 1928 (W.J.F.); Scarborough (G.E.F. and C.A.C.).

**ODONTOMYIA** Meigen

*viridula* (Fabr.)—Fen Bog, Goathland, 11/7/37 (H.B.).

**OXYCERA** Meigen

*dives* Loew, H.—Hole of Horcum, 5/7/37 (H.B.).

**RHAGIONIDAE****XYLOPHAGUS** Meigen

*ater* Meig.—Raincliffe Wood (G.B.W.); Wykeham, 6/6/45 (C.A.C.).

**ATHERIX** Meigen

*ibis* (Fabr.)—Helwath Beck, 14/7/35 (H.B.); Bempton, 6/49 (A.J.W.).

**RHAGIO** Fabricius

*scolopacea* (L.)—Robin Hood's Bay, 22/6/24, Fylinghall, 18/6/31 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).

*notata* (Meig.)—Fylinghall, 1928 (W.J.F.); Wykeham, 6/6/45 (C.A.C.).

*tringaria* (L.)—Forge Valley, 3/8/22; Filey, 8/22 (W.J.F.).

var. *nigriventris* (Loew, H.)—With the type.

*lineola* Fabr.—Staintondale, 13/9/27; Fylinghall, 29/6/29 (W.J.F.).

**CHRYSOPILUS** Macquart

*cristatus* (Fabr.)—Widely distributed.

*aureus* (Meig.)—Fylinghall, 1928 (W.J.F.); Fen Bog, 11/7/37 (H.B.).

**SYMPHOROMYIA** Frauenfeld

*immaculata* (Meig.)—Filey, 8/22 (W.J.F.).

## TABANIDAE

**CHRYSOPS** Meigen

*caecutiens* (L.)—Seamer Moor, Forge Valley (G.B.W.).

**HAEMATOPOTA** Meigen

*pluvialis* (L.)—CLEG.—Very common, especially in damp places.

**TABANUS** Linnaeus—BREEZE-FLIES OR GAD-FLIES.

*sudeticus* Zell.—Hole of Horcum, 4/7/37 (H.B.).

*bromius* L.—Raincliffe Wood (G.B.W.).

## BOMBYLIIDAE — BEE-FLIES

**BOMBYLIUS** Linnaeus

*major* L.—Fairly common in the spring.

## THEREVIDAE

**THEREVA** Latreille

*nobilitata* (Fabr.)—Staxton sand-pits, 13/6/43 (C.A.C.).

## ASILIDAE — ROBBER-FLIES

**ISOPOGON** Loew, H.

*brevirostris* (Meig.)—Fylinghall, 26/6/29 (W.J.F.).

**LASIOPOGON** Loew, H.

*cinctus* (Fabr.)—Staxton sand-pits, 13/6/43 (C.A.C.).

**DIOCTRIA** Meigen

*rufipes* (De G.)—Common, Hayburn Wyke, 10/20 (G.B.W.).

**ASILUS** Linnaeus

*crabroniformis* L.—Cloughthorpe (G.B.W.).

## EMPIDIDAE

**HYBOS** Meigen

*culiciformis* (Fabr.)—Staintondale, 1920, Forge Valley, 3/8/22 (W.J.F.).

**TRICHINA** Meigen

*clavipes* Meig.—Helwath Beck, 26/9/37 (H.B.).

**OCYDROMIA** Meigen

*glabricula* (Fall.)—Goathland, 30/9/37 (H.B.).

**HILARA** Meigen*intermedia* (Fall.)—Pickering, 4-6/6/38 (C.A.C.).*flavipes* Meig.—Hole of Horcum, in flowers of *Cornus*, 29/5/37 (H.B.).*maura* (Fabr.)—Robin Hood's Bay, 8/6/24, Hayburn Wyke, 17/6/24 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).*curtisi* Coll.—Pickering, 4-6/6/38 (C.A.C.).**EMPIS** Linnaeus**S. XANTHEMPIS** Bezzi*stercorea* L.—Robin Hood's Bay, 23/6/24 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).*trigramma* Meig.—Widely distributed.**S. KRITEMPIS** Collin*livida* L.—Fylinghall, 1928 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).**S. LEPTEMPIS** Collin*grisea* Fall.—Fylinghall, 1928 (W.J.F.).**S. PACHYMERIA** Stephens*tessellata* Fabr.—Widely distributed.**S. EMPIS** s. s.*pennaria* Fall.—Forge Valley, 3/8/22 (W.J.F.); Pickering (C.A.C.).*rufiventris* Meig.—Pickering, 4-6/6/38 (C.A.C.).**RHAMPHOMYIA** Meigen**S. LUNDSTROEMIELLA** Frey, R.*hybotina* Zett.—Ravenscar, 8/6/24 (P.H.G.).**S. HOLOCLERA** Schiner*flava* (Fall.)—Ravenscar, 8/6/24 (P.H.G.); Pickering, 4-6/6/38 (C.A.C.).**S. MEGACYTTARUS** Bigot*nigripes* (Fabr.)—Ravenscar, 8/6/24 (P.H.G.).[**S. PARARHAMPHOMYIA** Frey, R.]*dentipes* Zett.—Occurs just outside our area at Egton Bridge.]**S. DASYPHAMPHOMYIA** Frey, R.*plumipes* (Meig.)—Very rare; Fylinghall, 1928 (W.J.F.).**S. AMYDRONEURA** Collin*hirsutipes* Coll.—Hole of Horcum, 31/8/37 (H.B.).**S. ACLONEMPIS** Collin*albohirta* Coll.—Wykeham, 6/6/45 (C.A.C.).**S. RHAMPHOMYIA** s. s.*spinipes* (Fall.)—Hole of Horcum, 31/8/37 (F.W.E.).*sulcata* (Meig.)—Robin Hood's Bay, 30/5/24 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).*albosegmentata* (Zett.)—Ravenscar, 8/6/24 (P.H.G.); Levisham (W.D.R.).**CHELIFERA** Macquart*concinnauda* Coll.—Ravenscar, 8/6/24 (P.H.G.).**DOLICHOPODIDAE****DOLICHOPUS** Latreille

- S. LEUCODOLICHOPUS** Frey, R.  
*atripes* Meig.—Fylinghall, 1928 (W.J.F.).
- S. EUDOLICHOPUS** Frey, R.  
*discifer* Stann.—Fylinghall, 18/6/31 (W.J.F.).  
*plumipes* (Scop.)—Fylinghall, 1928 (W.J.F.).  
*pennatus* Meig.—Fylinghall, 1928 (W.J.F.).  
*popularis* Wied.—Fylinghall, 18/6/31 (W.J.F.).
- S. DOLICHOPUS** s. s.  
*brevipennis* Meig.—Fylinghall, 20/6/24 (W.J.F.).  
*ungulatus* (L.)—Widely distributed.
- HERCOSTOMUS** Loew, H.  
*nigripennis* (Fall.)—Pickering, 4-6/6/38 (C.A.C.).
- HYDROPHORUS** Fallén  
*nebulosus* (Fall.)—Goathland, 30/9/37 (H.B.); Seamer Moor, 1922 (W.J.F.).
- SCELLUS** Loew, H.  
*notatus* (Fabr.)—Robin Hood's Bay, 23/6/24 (W.J.F.).
- LIANCALUS** Loew, H.  
*virens* (Scop.)—Hayburn Wyke, 4/9/20, Ramsdale, 7/9/20 (W.J.F.).
- SCHOENOPHILUS** Mik  
*versutus* (Walk.)—Plentiful on the cliffs, Gristhorpe Bay, 3/7/48 (C.A.C.).
- NEUROGONA** (Rondani) Oldenberg  
*quadrifasciata* (Fabr.)—Wykeham, 6/6/45 (C.A.C.).
- ARGYRA** Macquart  
*diaphana* (Fabr.)—Robin Hood's Bay, 19/6/24, Fylinghall, 1928 (W.J.F.).  
*argentina* (Meig.)—Robin Hood's Bay, 1927 (W.J.F.).  
*argyria* (Meig.)—Fylinghall, 23/6/24 (W.J.F.).  
*leucocephala* (Meig.)—Fylinghall, 18/6/31 (W.J.F.).
- CAMPSICNEMUS** Walker  
*scambus* (Fall.)—Goathland, 30/9/37, Sleights, 2/10/37 (H.B.).  
*curvipes* (Fall.)—With the last.  
*loripes* (Hal.)—Helwath Beck, 26/9/37 (H.B.).
- SYMPYCNUM** Loew, H.  
*annulipes* (Meig.)—Pickering, 4-6/6/38 (C.A.C.).

## PHORIDAE

- PHORA** Latreille  
*aterrima* (Fabr.)—Ravenscar, 1/9/20, Staintondale (W.J.F.).

## CYCLORRHAPHA

## DORILAIIDAE

- CHALARUS** Walker  
*spurius* (Fall.)—Pickering, 4-6/6/38 (C.A.C.).
- DORILAS** Meigen  
*terminalis* (Thoms., C. G.)—Pickering, 4-6/6/38 (C.A.C.).  
*flavipes* (Meig.)—With the last.

## SYRPHIDAE — HOVER-FLIES

**LAMPETIA** Meigen

*equestris* (Fabr.)—BULB FLY—Occasional (H.W.T.).

**MYATHROPA** Rondani

*florea* (L.)—Hackness, 11/7/36 (C.A.C.).

**TUBIFERA** Meigen

*tenax* (L.)—DRONE FLY.—Very common, especially round Michaelmas daisies in September.

*arbustorum* (L.)—Fairly common.

*rupium* (Fabr.)—Widely distributed.

*horticola* (De G.)—Widely distributed.

*pertinax* (Scop.)—Common.

**ANASIMYIA** Schiner

*lineata* (Fabr.)—Raincliffe Wood (G.B.W.).

**HELOPHILUS** Fabricius

*hybridus* (Loew, H.)—Filey, 8/22 (W.J.F.).

*pendulus* (L.)—Robin Hood's Bay, 13/6/24 (W.J.F.); Scarborough, 1895 (H.J.B.).

**FERDINANDEA** Rondani

*cuprea* (Scop.)—Robin Hood's Bay, 25/6/24 (W.J.F.).

**ZELIMA** Meigen

*segnis* (L.)—Common and widely distributed.

*lenta* (Meig.)—Fylinghall, 1928 (W.J.F.).

*sylvarum* (L.)—Fylinghall, 1/7/29 (W.J.F.).

**PENTHESILEA** Meigen

*berberina* (Fabr.)—Fylinghall, 18/6/31 (W.J.F.).

*floccosa* (Meig.)—Fylinghall, 26/6/29 (W.J.F.).

**ARCTOPHILA** Schiner

*fulva* (Harr., M.)—Scarborough (H.J.B.).

**CINXIA** Meigen

*silentis* (Harr., M.)—Widely distributed.

*lappona* (L.)—Fylinghall, 26/6/29 (W.J.F.).

**TROPIDIA** Meigen

*scita* (Harr., M.)—Not uncommon, Scarborough Mere, 12/6/43 (C.A.C.).

**SYRITTA** Lepeletier & Serville

*pipiens* (L.)—Common.

**RHINGIA** Scopoli

*macrocephala* (Harr., M.)—Common.

**VOLUCELLA** Geoffroy

*pellucens* (L.)—Common; bred from larvae in nest of *Vespula vulgaris* in Forge Valley, 1920 (G.B.W.).

*bombylans* (L.)—Fairly common.

**PELECOCERA** Rondani

*tricincta* Meig.—Seamer Moor, 1922 (W.J.F.).

**NEOASCIA** Williston

*dispar* (Meig.)—Fylinghall, 26/6/29 (W.J.F.).

**SPHEGINA** Meigen

*clunipes* (Fall.)—Fylinghall, 20/6/24 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).

**BACCHA** Fabricius

*elongata* (Fabr.)—Widely distributed from May to September.

**CHILOMYIA** Shannon

*illustrata* (Harr., M.)—Common.

*variabilis* (Panz.)—Fylinghall, 18/6/31 (W.J.F.); Pickering, 4-6/6/38 (C.A.C.).

*honestata* (Rond.)—Fylinghall, 1928 (W.J.F.).

*chrysocoma* (Meig.)—Pickering, 4-6/6/38 (C.A.C.).

*nebulosa* (Verr.)—Scarborough, 1897 (H.J.B.).

*albitarsis* (Egg.)—Widely distributed.

**PORTEVINIA** Goffe

*maculata* (Fall.)—Pickering, 4-6/6/38 (C.A.C.).

**CARTOSYRPHUS** Bigot

*nasatulus* (Beck.)—Fylinghall (W.J.F.).

*nigripes* (Meig.)—(As *Chilosia antiqua* Meig.)—Robin Hood's Bay, 1924; Fylinghall, 1928 (W.J.F.).

*paganus* (Meig.)—Pickering, 4-6/6/38 (C.A.C.).

**ORTHONEURA** Macquart

*splendens* (Meig.)—Filey, 8/22 (W.J.F.).

**CHRYSOGASTER** Meigen

*hirtella* Loew, H.—Scarborough Mere, 11/6/43 (C.A.C.).

*macquarti* Loew, H.—Fylinghall, 18/6/31 (W.J.F.).

*virescens* Loew, H.—Fylinghall, 1928 (W.J.F.).

*solstitialis* (Fall.)—Widely distributed.

**SULCATELLA** Goffe

*tarsata* (Meig.)—Hackness, 11/7/36 (C.A.C.).

*metallina* (Fabr.)—Scarborough (W.D.R.); Fylinghall, 1928 (W.J.F.).

**CHEILOSIA** Panzer

*granditarsa* (Forst.)—Filey, 8/22 (W.J.F.).

**MELANOSTOMA** Schiner

*mellinum* (L.)—Levisham (W.D.R.); Fylinghall, 18/6/31 (W.J.F.).

*scalare* (Fabr.)—Common.

**PLATYCHEIRUS** Lepeletier & Serville

*manicatus* (Meig.)—Common.

*peltatus* (Meig.)—Fylinghall, 18/6/31 (W.J.F.); Wykeham, 6/6/45 (C.A.C.).

*scutatus* (Meig.)—Common.

*albimanus* (Fabr.)—Widely distributed.

*scambus* (Staeg.)—Fylinghall, 1928 (W.J.F.).

*fulviventris* (Macq.)—Scarborough Mere, 11/6/43 (C.A.C.).

*clypeatus* (Meig.)—Filey, 8/22 (W.J.F.).

*angustatus* (Zett.)—Robin Hood's Bay, 12/6/24, Fylinghall, 1/7/29 (W.J.F.).

**PARAGUS** Latreille*tibialis* (Fall.)—Staxton, 13/6/43 (C.A.C.).**MELANGYNA** Verrall*quadrinaculata* (Verr.)—Scarborough, 1897 (H.J.B.).**STENOSYRPHUS** Matsumura*barbifrons* (Fall.)—Scarborough, 1895 (H.J.B.).*compositarum* (Verr.)—Scarborough Mere, 12/6/43 (C.A.C.).*lasiophthalmus* (Zett.)—Widely distributed.**SPHAEROPHORIA** Lepeletier & Serville*scripta* (L.)—Scarborough, 1895 (H.J.B.).*menthastri* (L.)—Filey, 8/22, Fylinghall, 1928 (W.J.F.).**EPISYRPHUS** Matsumura*auricollis* (Meig.)—Staintondale, 14/9/20, Forge Valley, 3/8/22 (W.J.F.).var. *maculicornis* (Zett.)—Forge Valley, 3/8/22, Robin Hood's Bay, 1924, Fylinghall, 1928 (W.J.F.).*cinctus* (Fall.)—Scarborough (E.C.H.).*cinctellus* (Zett.)—Forge Valley, 3/8/22 (W.J.F.).*balteatus* (De G.)—Scarborough, 1895 (H.J.B.).**ISCHYROSYPHUS** Bigot*glaucius* (L.)—Ramsdale, 3/9/27 (W.J.F.).*latermarius* (Muell., O. F.)—Robin Hood's Bay, 6/9/27 (W.J.F.).**EPISTROPHE** Walker*eligans* (Harr., M.)—Levisham (W.D.R.); Fylinghall, 18/6/31 (W.J.F.).**PIPIZA** Fallén*noctiluca* (L.)—Fylinghall, 1928 (W.J.F.).*austriaca* Meig.—Fylinghall, 1928 (W.J.F.).**PHALANGUS** Meigen*heringi* (Zett.)—Scarborough, 11/6/43 (C.A.C.).**CHRYOTOSUM** Meigen*arcuatum* (L.)—Common.**ZANTHOGRAMMA** Schiner*citrofasciatum* (De G.)—Pickering, 4-6/6/38 (C.A.C.).**SCAEVA** Fabricius*pyrastri* (L.)—Common.**METASYRPHUS** Matsumura*latifasciatus* (Macq.)—Fylinghall, 28/6/29 (W.J.F.).*corollae* (Fabr.) [= *consisto* (Harr., M.)]—Scarborough, 1895 (H.J.B.); Fylinghall, 1928 (W.J.F.).*luniger* (Meig.)—Filey, 8/22; Fylinghall, 7/9/20 (W.J.F.).**SYRPHELLA** Goffe*albostrigata* (Fall.)—Fylinghall, 1928 (W.J.F.).*venusta* (Meig.)—Widely distributed.*lunulata* (Meig.)—Fylinghall, 29/6/29 (W.J.F.).**SYRPHIDIS** Goffe*torvus* (Ost. Sack.)—Forge Valley, 3/8/22 (W.J.F.).*ribesii* (L.)—Common.*vitripennis* (Meig.)—Fylinghall, 18/6/31 (W.J.F.).



## SCHIZOPHORA

## CONOPIDAE

## CONOPS Linnaeus

*flavipes* L.—Hackness, 11/7/36 (C.A.C.).

## PHYSOCEPHALA Schiner

*nigra* (De G.)—Hutton Buscel (E.G.B.).

## ZODION Latreille

*cinereum* (Fabr.)—Fylinghall, 1928 (W.J.F.).

## SICUS Scopoli

*ferrugineus* (L.)—Helwath Beck, 11/7/35 (H.B.).

## PLATYSTOMATIDAE

## PLATYSTOMA Meigen

*seminationis* (L.)—Raincliffe Wood, 11/6/43 (W.D.H.).

## OTITIDAE

## HERINA Robineau - Desvoidy

*germinationis* (Rossi)—Fylinghall, 29/6/29 (W.J.F.).

## SEIOPTERA Kirby, W.

*vibrans* (L.)—Pickering, 4-6/6/38 (C.A.C.).

## PALLOPTERIDAE

## PALLOPTERA Fallén

*saltuum* (L.)—Forge Valley, 3/8/22 (W.J.F.).

*arcuata* (Fabr.)—Pickering, 4-6/6/38 (C.A.C.).

## PIOPHILIDAE

## PIOPHILA Fallén

*casei* (L.)—Occasional. Scarborough, damaging bacon in store (G.B.W.).

## DRYOMYZIDAE

## DRYOMYZA Fallén

*senilis* Zett.—Forge Valley, 3/8/22 (W.J.F.).

## NEUROCTENA Rondani

*anilis* (Fall.)—Fylinghall, 1928 (W.J.F.); Sleights, 2/10/37 (H.B.); in carrion traps in the winter, Raincliffe Wood (G.B.W.).

## HELCOMYZA Curtis

*ustulata* Curt.—Scarborough (H.J.B.); Forge Valley, 3/8/22 (W.J.F.).

## TRYPETIDAE

## UROPHORA Robineau - Desvoidy

*jaceana* (Her.)—Common in galls in flower-heads of *Centaurea nigra* L.

## EURIBIA Meigen

*zoë* (Meig.)—Common.

## PRIONIMERA Rondani

*cognata* (Wied.)—Common.

## PHILOPHYLLA Rondani

*heraclei* (L.)—Larvae in leaves of *Heracleum sphondylium* L., and at times a pest on parsnip and celery; very common.

**TRYPETA** Meigen**S. CHAETOSTOMELLA** Hendel*cylindrica* (Rob.-Desv.)—Common.**XYPHOSIA** Robineau-Desvoidy*miliaria* (Schränk)—Common.**ENSINA** Robineau-Desvoidy*sonchi* (L.)—Scarborough, 1895 (H.J.B.).**TEPHRITIS** Latreille*conjuncta* (Loew, H.)—Ramsdale, 1928 (W.J.F.).*vespertina* (Loew, H.)—Widely distributed.*leontodontis* (De G.)—Fylinghall, 6/28 (W.J.F.).**NOEETA** Robineau-Desvoidy*pupillata* (Fall.)—Widely distributed.

## LONCHAEIDAE

**LONCHAEA** Fallén*chorea* (Fabr.)—Widely distributed.

## LAUXANIIDAE

**PRORAPHOCHAETA** Czerny*inusta* (Meig.)—Ravenscar, 8/6/24 (P.H.G.).**CNEMACANTHA** Macquart*rorida* (Fall.)—Helwath Beck, 26/9/37 (H.B.).*pallidiventris* (Fall.)—With the last.*sordida* (Hal.)—Raincliffe Wood (G.B.W.).*decempunctata* (Fall.)—Ravenscar, 1924 (C.A.C.).

## TYLIDAE

**TREPIDARIA** Meigen**S. CNODACOPHORA** Czerny*adusta* (Loew, H.)—Fylinghall, 1928 (W.J.F.).**S. TREPIDARIA** s. s.*petronella* (L.)—Fylinghall, 28/6/29 (W.J.F.).**TYLOS** Meigen*corrigiolatus* (L.)—Widely distributed.

## PSILIDAE

**CHYLIZA** Fallén*annulipes* Macq.—Pickering, 4-6/6/38 (C.A.C.).**LOXOCERA** Meigen*aristata* (Panz.)—Fylinghall, 1928 (W.J.F.).**PSILA** Meigen**S. PELETHOPHILA** Hagenbach*fimetaria* (L.)—Widely distributed.**S. PSILA** s. s.*rosae* (Fabr.)—CARROT FLY. Abundant; at times doing serious damage to carrot crops.*nigricornis* Meig.—Robin Hood's Bay, 1927 (W.J.F.).*nigra* (Fall.)—Robin Hood's Bay, 20/6/24 (W.J.F.).

## SEPSIDAE

**THEMIRA** Robineau-Desvoidy

*lucida* (Staeg.)—Fylinghall, 1928 (W.J.F.).

**NEMOPODA** Robineau-Desvoidy

*nitidula* (Fall.)—Robin Hood's Bay, 1927 (W.J.F.).

**SEPSIS** Fallén

*fulgens* Meig.—Scarborough, 1897 (H.J.B.).

*violacea* Meig.—Fylinghall, 1928 (W.J.F.).

*cynipsea* (L.)—Scarborough, 1895 (H.J.B.); Seamer Moor, 1922 (W.J.F.).

## SCIOMYZIDAE

**PHAEMYIA** Schiner

*fuscipennis* (Meig.)—Fylinghall, 26/6/39 (W.J.F.).

**SCIOMYZA** Fallén

*dubia* Fall.—Widely distributed.

*scutellaris* von Ros.—Robin Hood's Bay, 1927; Fylinghall, 1933 (W.J.F.).

**DITAENIA** Hendel

*cinerella* Fall.—Pickering, 4-6/6/38 (C.A.C.).

**RENOCERA** Hendel

*pallida* Fall.—Fylinghall, 1928 (W.J.F.).

**TETANOCERA** Duméril

*hyalipennis* von Ros.—Fylinghall, 1928 (W.J.F.).

*silvatica* Meig.—Fylinghall, 18/6/31 (W.J.F.).

*unicolor* Loew, H.—Fylinghall, 1928 (W.J.F.).

*elata* (Fabr.)—Pickering, 4-6/6/38 (C.A.C.).

**TRYPETOPTERA** Hendel

*punctulata* (Scop.)—Widely distributed.

**ILIONE** Haliday in Westwood

*albisetia* (Scop.)—Raincliffe Wood (G.B.W.).

**HYDROMYA** Robineau-Desvoidy

*dorsalis* (Fabr.)—Fylinghall, 26/6/29 (W.J.F.).

**LIMNIA** Robineau-Desvoidy

*unguicornis* (Scop.)—Forge Valley, 3/8/22 (W.J.F.).

## CHAMAEMYIIDAE

**CHAMAEMYIA** Meigen

*geniculata* (Zett.)—Robin Hood's Bay, 8/6/24 (Y.N.U. Excn.).

## COELOPIDAE

**COELOPA** Meigen

*pilipes* Hal.—On the coast under seaweed (C.A.C.).

*frigida* (Fabr.)—Gristhorpe Bay, 3/7/48 (C.A.C.).

## HELOMYZIDAE

**HELOMYZA** Fallén

[*notata* Meig.] var. *hilaris* Zett.—Fylinghall, 29/6/29 (W.J.F.).

*affinis* Meig.—Fylinghall, (W.J.F.).

*flava* Meig.—Forge Valley, 3/8/22 (W.J.F.).

*similis* Meig.—With the last.

*pallida* Fall.—Pickering, 4-6/6/38 (C.A.C.).

*ustulata* Meig.—Forge Valley, 3/8/22 (W.J.F.).

**TEPHROCLAMYS** Loew, H.

*rufiventris* (Meig.)—Scarborough, 1897 (H.J.B.) ; Robin Hood's Bay, 21/6/24 (W.J.F.).

**NEOLERIA** Malloch

*inscripta* (Meig.)—In carrion traps in the winter, Raincliffe Wood (G.B.W.).

**ECCOPTOMERA** Loew, H.

*microps* (Meig.)—In moles' nests, Brompton, 4/36 (G.B.W.).

**CHAETOMUS** Czerny

*flavotestaceus* (Zett.)—Pickering, 4-6/6/38 (C.A.C.).

OPOMYZIDAE

**OPOMYZA** Fallén

*germinationis* (L.)—Goathland, 1921 ; Fylinghall, 1928 (W.J.F.).

EPHYRIDAE

**NOTIPHILA** Fallén

*nigricornis* Steph.—Flamborough (W.D.R.).

*cinerea* Fall.—Flamborough (W.D.R.).

**HYDROPOTA** Rondani

*griseola* (Fall.)—Widely distributed.

**LIMNELLIA** Malloch

*quadrata* (Fall.)—Robin Hood's Bay, 24/6/24 (W.J.F.).

**TEICHOMYZA** Macquart

*fusca* Macq.—Flamborough (C.A.C.).

SPHAEROCERIDAE

**STRATIOBORBORUS** Duda

*nitidus* (Meig.)—Robin Hood's Bay, 8/6/24 (Y.N.U. Excn.).

**THORACOAETA** Duda

*zosteræ* (Hal.)—Robin Hood's Bay, 1933 (Y.N.U. Excn.). Common at Flamborough (C.A.C.).

DIASTATIDAE

**DIASTATA** Meigen

*nebulosa* (Fall.)—Hole of Horcum, 1/9/37 (H.B.).

DROSOPHILIDAE

**DROSOPHILA** Fallén

**S. SCAPTOMYZA** Hardy

*graminum* Fall.—Scarborough, 1895 (H.J.B.).

**S. DROSOPHILA** s. s.

*phalerata* Meig.—Goathland, 30/6/37 (H.B.).

AGROMYZIDAE

**PHYTOMYZA** Fallén

*ilicis* Curt.—Very common.

## BRAULIDAE

**BRAULA** Nitzsch

**coeca** Nitzsch—BEE " LOUSE ". Taken by Mr. Colin Beech in small numbers in 1952 in an apiary near Scarborough and in much larger numbers, on both drones and workers, in 1953. Probably introduced in purchased stock from the South.

## CHLOROPIDAE

**OSCINELLA** Becker

**frit** (L.)—Very common and harmful (H.W.T.).

**MEROMYZA** Meigen

**pratorum** Meig.—Fylinghall, 1/7/29 (W.J.F.).

**CHLOROPS** Meigen

**pumilionis** (Bjerk.)—Rare (H.W.T.).

## CORDILURIDAE

**CORDILURA** Fallén

**pubera** (L.)—Fylinghall, 1928 (W.J.F.).

**PARALLELOMMA** Becker

**dispar** (Zett.)—Fylinghall, 1928 (W.J.F.).

**SCOPEUMA** Meigen

**inquinatum** (Meig.)—Robin Hood's Bay, 24/6/24 (W.J.F.).

**lutarium** (Fabr.)—Common.

**stercorarium** (L.)—DUNG FLY. Common everywhere; in carrion traps in the winter in Raincliffe Wood (G.B.W.).

**SCATOMYZA** Fallén

**litorea** Fall.—Grithorpe Bay, 3/7/48 (C.A.C.).

**CERATINOSTOMA** Meade

**ostiorum** (Hal. in Curt.)—With the last.

## LARVAEVORIDAE

**CYZENIS** Robineau-Desvoidy

**albicans** (Fall.)—Fylinghall, 1928 (W.J.F.).

**PHRYXE** Robineau-Desvoidy

**vulgaris** (Fall.)—Filey, 8/22 (W.J.F.).

**LYDELLA** Robineau-Desvoidy

**stabulans** (Meig.)—Filey, 8/22 (W.J.F.).

**CROCUTA** Meigen

**geniculata** (De G.)—Scarborough, 1895 (H.J.B.).

**VORIA** Robineau-Desvoidy

**ruralis** (Fall.)—Robin Hood's Bay, 1927; Fylinghall, 22/9/30 (W.J.F.).

**WAGNERIA** Robineau-Desvoidy

**lentis** (Meig.)—Robin Hood's Bay, 19/6/24 (W.J.F.).

**GYMNOCHETA** Robineau-Desvoidy

**viridis** (Fall.)—Hayburn Wyke, 17/6/24 (W.J.F.).

**LINNAEMYA** Robineau-Desvoidy

**vulpina** (Fall.)—Hackness, 11/7/36 (C.A.C.).

**ERIOTHRIX** Meigen

**rufomaculatus** (De G.)—With the last.

**LARVAEVORA** Meigen*grossa* (L.)—Helwath Beck, 14/7/35 (H.B.).**PHYLLOMYA** Robineau-Desvoidy*volvulus* (Fabr.)—Forge Valley, 3/8/22 (W.J.F.).**DEXIOSOMA** Rondani*caninum* (Fabr.)—Pickering, 2/8/41 (C.A.C.).**ALOPHORA** Robineau-Desvoidy*hemiptera* (Fabr.)—Pickering, 2/8/41 (C.A.C.).**OESTRUS** Linnaeus*ovis* L.—SHEEP BOT FLY. Local and occasional (H.W.T.).

## CALLIPHORIDAE

**SARCOPHAGA** Meigen**S. THYRSOCNEMA** Enderlein*incisilobata* Pand.—Filey, 8/22 (W.J.F.).**S. SARCOPHAGA** s. s.*carnaria* (L.)—FLESH FLY. Very common.*subvicina* Rohd.—Filey, 8/22 (W.J.F.).**HYPODERMA** Latreille—OXWARBLE FLY.*lineatum* (de Vill., C. J.)—Common (H.W.T.).*bovis* (L.)—Common (H.W.T.).**CYNOMYA** Robineau-Desvoidy*mortuorum* (L.)—Pickering, 4-6/6/38 (C.A.C.).**CALLIPHORA** Robineau-Desvoidy—BLUEBOTTLE.*erythrocephala* (Meig.)—Very common.*vomitorea* (L.)—Less common than the last.**ONESIA** Robineau-Desvoidy*biseta* Vill. in Kram.—Scarborough, 1895 (H.J.B.); Robin Hood's Bay, 8/6/24 (Y.N.U. Excn.).**LUCILIA** Robineau-Desvoidy*caesar* (L.)—GREENBOTTLE. Common.*illustris* (Meig.)—Scarborough, 1897 (H.J.B.).*silvarum* (Meig.)—Scarborough, 1895 (H.J.B.).*sericata* (Meig.)—SHEEP MAGGOT FLY. Very common (H.W.T.).**POLLENIA** Robineau-Desvoidy*rudis* (Fabr.)—CLUSTER FLY. Very common. Found hibernating in clusters of hundreds under the stone steps in Hackness Church, also in houses.

## MUSCIDAE

**MUSCA** Linnaeus*domestica* L.—HOUSE FLY. Still common, especially in the country, but much reduced in numbers.**ORTHELLIA** Robineau-Desvoidy*cornicina* (Fabr.)—Scarborough, 1895 (H.J.B.); occurred in great numbers in a house in Scarborough at the end of October, 1937 (G.B.W.).**DASYPHORA** Robineau-Desvoidy*cyarella* (Meig.)—Fylinghall, 1928 (W.J.F.).

**GRAPHOMYA** Robineau-Desvoidy

*maculata* (Scop.)—Fylinghall, 24/6/29 (W.J.F.) ; Hackness, 11/7/36 (C.A.C.).

**MYOSPILA** Rondani

*meditabunda* (Fabr.)—Ravenscar, 8/6/24 (P.H.G.) ; Fylinghall, 1928 (W.J.F.).

**MESEMBRINA** Meigen

*meridiana* (L.)—Common.

**MUSCINA** Robineau-Desvoidy

*stabulans* (Fall.)—STABLE FLY. Common.

**MORELLIA** Robineau-Desvoidy

*hortorum* (Fall.)—Robin Hood's Bay, 7/6/24, Fylinghall, 20/6/24 (W.J.F.).

*simplex* (Loew, H.)—Scarborough, 1895 (H.J.B.).

**STOMOXYS** Geoffroy

*calcitrans* (L.)—BITING HOUSE FLY. Common; at times its bite sets up serious septicaemia.

**GASTEROPHILUS** Leach

*intestinalis* (De G.)—HORSE BOT-FLY. Not uncommon (H.W.T.).

**DRYMEIA** Meigen

*hamata* (Fall.)—Widely distributed.

**POGONOMYIA** Rondani

*brumalis* (Rond.)—Forge Valley, 3/8/22 (W.J.F.).

**TRICHOPTICOIDES** Ringdahl

*decolor* (Fall.)—Robin Hood's Bay. 1927 (W.J.F.).

**ALLOEOSTYLUS** Schnabl

*diaphanus* (Wied.)—Fylinghall, 1928 (W.J.F.).

**TRICHOPHTHICUS** Rondani

*nigritellus* (Zett.)—Ravenscar (Y.N.U. Excn., 1924).

**LASIOPS** Meigen

*semicinereus* (Wied.)—Fylinghall, 29/6/29 (W.J.F.) ; Pickering, 4-6/6/38 (C.A.C.).

**HERA** Schnabl

*longipes* (Zett.)—Forge Valley, 3/8/22; Fylinghall, 29/6/29 (W.J.F.).

**LOPHOSCELES** Ringdahl

*mutatus* (Fall.)—Robin Hood's Bay, 7/6/24 (W.J.F.).

**POLIETES** Rondani

*lardarius* (Fabr.)—Common.

**PSEUDOMORELLIA** Ringdahl

*albolineata* (Fall.)—Fylinghall. 27/7/21; Robin Hood's Bay, 7/6/24 (W.J.F.).

**PHAONIA** Robineau-Desvoidy

*scutellaris* (Fall.)—Fylinghall, 1931 (W.J.F.) ; Pickering, 4-6/6/38 (C.A.C.).

*signata* (Meig.)—Sleights, 29/6/37 (H.B.).

*incana* (Wied.)—Fylinghall, 1928 (W.J.F.) ; in carrion traps in Raincliffe Wood in the winter (G.B.W.).



**HYDROTAEA** Robineau-Desvoidy—SWEAT FLIES.*occulta* (Meig.)—Robin Hood's Bay, 2/6/24 (W.J.F.).*irritans* (Fall.)—Abundant; a great pest.*dentipes* (Fabr.)—Raincliffe Wood (G.B.W.); probably abundant.**FANNIA** Robineau-Desvoidy*hamata* (Macq.)—Filey, 8/22 (W.J.F.).*canicularis* (L.)—LESSER HOUSE FLY. Common.*armata* (Meig.)—Ravenscar, 8/6/24 (P.H.G.).*coracina* (Loew, H.)—Ravenscar, 8/6/24 (P.H.G.).*mutica* (Zett.)—In carrion traps in Raincliffe Wood in the winter (G.B.W.).**LISPE** Latreille*tentaculata* (De G.)—Plentiful in damp places near Flixton, 13/6/43 (C.A.C.).**AZELIA** Robineau-Desvoidy*cilipes* Hal.—Ramsdale, 7/9/20 (W.J.F.).*macquarti* (Staeg.)—Ravenscar, 8/6/24 (P.H.G.).*triquetra* (Wied.)—In carrion traps in Raincliffe Wood in the winter (G.B.W.); Ravenscar, 8/6/24 (P.H.G.).**LIMNOPHORA** Robineau-Desvoidy**S. SPILOGONA** Schnabl*contractifrons* (Zett.)—Fylinghall, 1928 (W.J.F.).*brunneisquama* (Zett.)—With the last.*denigrata* (Meig.)—Fylinghall, 1928; Forge Valley, 3/8/22 (W.J.F.).**S. GYMNODIA** Robineau-Desvoidy*humilis* (Zett.)—Scarborough, 1897 (H.J.B.); Fylinghall, 28/6/29 (W.J.F.).**S. LIMNOPHORA** s. s.*maculosa* (Meig.)—Fylinghall, 1928 (W.J.F.).**HEBECNEMA** Schnabl*vespertina* (Fall.)—Fylinghall, 1928 (W.J.F.).**MYDAEA** Robineau-Desvoidy*scutellaris* Rob-Desv.—Ravenscar, 1924 (P.H.G.); Fylinghall, 1928 (W.J.F.).*urbana* (Meig.)—Robin Hood's Bay, 7/6/24; Fylinghall, 1928 (W.J.F.).**HELINA** Robineau-Desvoidy*atripes* (Meade)—Fylinghall, 1928 (W.J.F.).*duplicata* (Meig.)—With the last.*lucorum* (Fall.)—Robin Hood's Bay, 1927 (W.J.F.).*marmortan* (Zett.)—With the last.*latitarsis* Ringd.—Fylinghall, 1927 (W.J.F.).*lasiophthalma* (Macq.)—Fylinghall, 1931 (W.J.F.).*impuncta* (Fall.)—Ravenscar, 8/6/24 (P.H.G.); Fylinghall, 1928 (W.J.F.).*obscuripes* (Zett.)—Ravenscar, 8/6/24 (P.H.G.).**MYCOPHAGA** Rondani*fungorum* (De G.)—Wykeham, 6/6/45 (C.A.C.).

**FUCELLIA** Robineau-Desvoidy**fucorum** (Fall.)—Common under rotting seaweed.**maritima** (Hal.)—Robin Hood's Bay, 25/6/24 (W.J.F.).**HYDROPHORIA** Robineau-Desvoidy**conica** (Wied.)—Hayburn Wyke, 17/6/24; Fylinghall, 1/7/29 (W.J.F.).**PEGOMYA** Robineau-Desvoidy**bicolor** (Wied.)—Forge Valley, 3/8/22 (W.J.F.).**univittata** (von Ros.)—Hole of Horcum, 31/8/37 (H.B.).**hyoscyami** (Panz.) var. **betae** (Curt.)—Very common (H.W.T.).**HYLEMYIA** Robineau-Desvoidy**strenua** Rob.-Desv.—Common and widely distributed.**nigrimana** (Meig.)—Helwath Beck, 21/9/37 (H.B.).**variata** (Fall.)—Ravenscar, 8/6/24 (P.H.G.).**PEGOHYLEMYIA** Schnabl**gnava** (Meig.)—Scarborough, 1895 (H.J.B.).**signata** (Brischke)—Fylinghall (W.J.F.).**DELIA** Robineau-Desvoidy**nuda** Strobl—Fairly common.**cepetorum** (Meade)—ONION FLY. Very common, at times doing great damage to onion crops.**ERIOISCHIA** Lioy**brassicae** (Bouché)—CABBAGE ROOT FLY. Very common, and in some years a great pest.**MELINIA** Ringdahl**pullula** (Zett.)—Gristhorpe Bay, 3/7/48 (C.A.C.).**EGLE** Robineau-Desvoidy**aestiva** (Meig.)—Robin Hood's Bay, 13/6/24 (W.J.F.).**radicum** (L.)—ROOT FLY. Common.**muscaria** (Fabr.)—Scarborough, 1897 (H.J.B.).**brevicornis** (Zett.)—Scarborough, (H.J.B.).**LEUCOPHORA** Robineau-Desvoidy**grisea** (Fall.)—Hole of Horcum, 31/8/37 (H.B., F.W.E.); Goathland, 4/9/37 (F.W.E.).**ANTHOMYIA** Meigen**pluvialis** (L.)—Fylinghall, 1924 (W.J.F.).**PSEUDOCOENOSIA** Stein, P.**abnormis** Stein., P.—Ramsdale, 7/9/20 (W.J.F.).**CARICEA** Robineau-Desvoidy**intermedia** (Fall.)—Fylinghall, 28/6/28 (W.J.F.).**tigrina** (Fabr.)—With the last.**COENOSIA** Meigen**humilis** Meig.—Pickering, 4-6/6/38 (C.A.C.).**PUPIPARA****HIPPOBOSCIDAE****HIPPOBOSCA** Linnaeus**equina** L.—Occasional (H.W.T.).

**MELOPHAGUS** Latreille

**ovinus** (L.)—SHEEP TICK or KED. Very common on sheep.

**STENEPTERYX** Leach

**hirundinis** (L.)—In the nests of house martin, Scarborough (E.C.H.) ; West Ayton (G.B.W.).

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## Order SIPHONAPTERA — FLEAS

G. B. Walsh

A good start has been made at the compilation of a list of the fleas of the district. The records are found in the lists of the Scarborough Field Naturalists' Society compiled by the Rev. R. A. Taylor (R.A.T.), 1913-15, in an old collection of microscope slides made by W. J. Clarke (W.J.C.), and in lists published in the "Naturalist," 1938, p. 72, by H. Britten (H.B.), and pp. 185-7, by G. B. Walsh (G.B.W.).

No dates are quoted as fleas may be found throughout the year.

## PULICIDAE

**PULEX** Linnaeus

*irritans* L.—All too common and generally distributed, sometimes in enormous numbers.

**ARCHAEOPSYLLA** Dampf

*erinacei* (Bouché)—Common and widely distributed on the hedgehog.

**CTENOCEPHALIDES** Stiles & Collins

*canis* (Curt.)—Scarborough, probably generally distributed.

*felis* (Bouché)—Scarborough, not so common as the last.

**SPILOPSYLLUS** Baker

*cuniculi* (Dale)—Widely distributed on rabbits and in their burrows.

## CERATOPHYLLIDAE

**CERATOPHYLLUS** Curtis

*styx* Roth., N.C.—More than 400 specimens in a nest of the common dipper, (R.A.T.), found by E. A. Wallis far from the nests of its usual host, the sand-martin. In nests of the sand-martin at Hilla Green about a month before the birds were due to return in the spring (G.B.W.).

*hirundinis* (Curt.)—Common in nests of house-martin. Scarborough (G.B.W.) ; Goathland (H.B.).

*farreni* Roth., N.C.—With the last (G.B.W.).

*garei* Roth., N.C.—Goathland (H.B.).

*columbae* Walck. & Gerv.—Scarborough on the domestic pigeon and bred from larvae in their nests (G.B.W.).

*gallinae* (Schr.)—Scarborough, on the domestic fowl (R.A.T. and G.B.W.).

*fringillae* Walk.—Scarborough, bred from larvae in deserted nests of sky-lark (G.B.W.).

**MALARAEUS** Jordan

*penicilliger* (Grube)—Scarborough, on the field-mouse and vole (R.A.T.).

**NOSOPSYLLUS** Jordan

*fasciatus* (Bosc.)—With the last species (R.A.T.).

**MEGABOTHRIS** Jordan

**walkeri** Roth., N.C.—Sleights (H.B.), and with the last two species.

**MONOPSYLLUS** Kolenati

**sciurorum** (Schr.)—Scarborough district on red squirrel (W.J.C.).

**DASYPSYLLUS** Baker

**gallinulae** (Dale, C.W.)—Widely distributed and common in the Scarborough district. In the nests of the wren (160 specimens), chaffinch, greenfinch, long-tailed tit, etc. (R.A.T.). Bred from larvae in nests of song-thrush, mistle-thrush, blackbird, robin, etc. (G.B.W.).

**PARACERAS** Wagner, J.

**melis** (Walk.)—In enormous numbers on young badger found dying by E. B. Lotherington at Staintondale (G.B.W.).

**CTENOPHTHALMUS** Kolenati

[**agyrtes** Hell.] **s. nobilis** Roth., N.C.—Common in the nests of field-mouse, vole and mole in the Scarborough district (R.A.T.); in moles' nests at Ganton and Brompton (G.B.W.); Sleights (H.B.).

**bisectodentatus** Kol.—In nests of mole, Scarborough (R.A.T.); Ganton (G.B.W.).

**RHADINOPSYLLA** Jordan & Rothschild, N.C.

**pentacanthus** (Roth., N.C.)—Scarborough district, in nests of mouse, vole and mole (R.A.T.); Brompton, Seamer, in nests of mole (G.B.W.).

## LEPTOPSYLLIDAE

**PALAEOPSYLLA** Wagner

**sorecis** (Dale, C.W.)—Scarborough on field-mouse (R.A.T.).

**kohauti** Dampf—Ganton, Seamer and Brompton in moles' nests (G.B.W.).

**minor** (Dale, C.W.)—Common with the preceding species (G.B.W.).

**LEPTOPSYLLA** Jordan & Rothschild, N.C.

**segnis** (Schoen.)—Scarborough on house-mouse (G.B.W.).

## HYSTRICHOPSYLLIDAE

**HYSTRICHOPSYLLA** Taschenberg

**talpae** (Curt.)—Found in the nests of moles wherever examined (G.B.W.); from nests of field-mouse and vole, Scarborough (R.A.T.); Sleights (H.B.).

# ARACHNIDA

## SPIDERS, HARVESTMEN, PSEUDOSCORPIONS

## MITES AND TICKS

Compiled by Mary Wood and F. C. Rimington.

### INTRODUCTORY NOTES

W. S. Bristowe, M.A., Sc.D.

A Greek contest which preceded the first Olympic Games, but which possessed none of their sportsmanship, led to Arachne being converted into a spider for daring to challenge the goddess Athene (Minerva) to a spinning competition. Even if she is loved by few, at least she has the satisfaction of lasting fame and of admiration for her craftsmanship. What ought to be recognised more fully is the amazing variety and interest of the habits of Arachne's kin, as well as the vast destruction of insects for which they are responsible. I claim with confidence that they devour annually in Britain a greater weight of insects than that of human beings in the British Isles.

The first book on British spiders was written by a Yorkshireman, Martin Lister in 1678. This book described 34 species and he made "bold to say that no one can find casually in this country any new species not described by me." We now recognise 563 species. This confidence in his own powers may have helped Lister in his profession as a doctor, for in later years he attended Charles II and Queen Anne.

R. H. Meade, a Bradford surgeon, made substantial contributions to our knowledge of British spiders and harvestmen in the middle of the 19th century, but perhaps his most important contribution was an indirect one. He stimulated the interest of a young clergyman, the Rev. O. P. Cambridge, in spiders and introduced him to J. Blackwall. Together these two great pioneers, Blackwall and Cambridge, spanned more than 90 years and provided us with detailed descriptions of more than five hundred species. W. Falconer, the principal contributor to our knowledge of Yorkshire spiders owed much of his skill to the encouragement and help of the Rev. O. P. Cambridge.

A list of spiders can be a dull, though important, record, so some notes on the families are provided below.

The DICTYNIDAE all have a comb on the hind leg with which silk is teased out in such a way that it adds to the difficulty of insects to escape once they have come in contact with it. The DICTYNAE are small spiders which live on the heads of plants and grasses. The CINIFLO's are large and stretch their faintly blue tangled threads over the surface of walls, rotten tree stumps, etc.

OONOPS is a tiny flesh-pink spider about 3 mm. in length, which lives under stones and bark, or in dry vegetation, including birds' nests.



Like the three species of *DYSDERIDAE* it has six eyes in contrast to the eight possessed by all the rest.

*DYSDERA* has a red cephalothorax and legs, with a pale, almost white body. It lives under stones during the day and has huge jaws with which it can pierce the armour of woodlice. *HARPACTEA* lives in similar places and under loose bark. The cephalothorax is dark-brown and the abdomen very elongate. Unlike the other two *DYSDERIDS*, *SEGESTRIA* builds a web. It lives in a tube beneath bark or stones and there are a dozen straight "fishing lines" from the entrance which give warning of an insect's approach. The abdominal pattern is similar to that of an adder.

The *DRASSIDAE* are usually sombre and unicolorous. *MICARIA* is an exception in that in sunlight, its black body (with minor white markings) glitters with rainbow tints. It runs frequently in company with black ants and can easily be mistaken for one. Some of the enemies of spiders which dislike ants avoid *MICARIA*.

Most *DRASSIDS* live in silk cells under stones, etc., during the day and emerge on hunting excursions at night. *ZELOTES* is black, *DRASSODES* is light-brown; *SCOTOPHOEUS*, a domestic species, is shiny grey. They are all short-sighted but rapid and fierce in attack. *DRASSODES* leaps over or round a formidable opponent trailing a band of silk to anchor and enmesh it.

The *CLUBIONIDAE* have somewhat similar habits to those of the *DRASSIDAE* and the *CLUBIONAE* look much like the *DRASSODES*. *ANYPHAENA* lives on the twigs and branches of trees. The *THOMISIDAE* are called CRAB SPIDERS because of the way they hold their legs, and the ease with which they can walk sideways. They sit with legs outstretched and seize insects which approach them. Those of the genus *XYSTICUS* are remarkable for the males fastening the females to the ground with silk before mating with them. The females, as in most spiders, are larger and are apt to be dangerous.

The *SALTICIDAE* are the longest-sighted spiders. They stalk their prey and leap on them. *SALTICUS SCENICUS* is the small, zebra-marked spider which hunts on the outside of buildings in sunlight. The *LYCOSIDAE* are WOLF SPIDERS, *LYCOSAE* hunt on the ground and can be seen almost everywhere on a sunny day. When eggs are laid they are enclosed in a silk covering and attached to the mother's spinnerets. Later, when the young hatch, the babies are carried for a time on her back.

*TARENTULA* and *TROCHOSA* are larger and thicker set, the latter chiefly nocturnal. *ARCTOSA* lives on sand-hills and excavates burrows from which it hunts. *PIRATA* is chocolate-brown and lives mostly on marshy ground.

*PISAURA* is a long-legged WOLF SPIDER which trundles clumsily about with a huge egg-sac in its jaws until the young are about to hatch, when a silk tent is built which serves as a nursery over which the mother stands guard.

These last three families, SALTICIDAE, LYCOSIDAE and PISAURIDAE, all have interesting courtships because they are the long-sighted families. The males of the first two families do weird antics in front of the females to advertise their identity and to stimulate the female's interest. The male PISAURA presents the female with a wedding present of an insect carefully wrapped up in silk.

The AGELENIDAE include the sheet-building HOUSE SPIDERS (TEGENARIA) and their relations, but ARGYRONETA is of course the famous WATER SPIDER which fills a diving-bell with air below the surface of the water in a pond or ditch and spends its life there.

The TETRAGNATHIDAE are long, slim orb-weavers which live near water except for the PACHYGNAETHAE which have forsaken snares and hunt at the roots of plants. All have large jaws and the males grip those of the females to avoid "accidents". In some species they are held shut, in others they are wedged open.

The ARGYOPIDAE all build orb-webs. In META the centre is an open ring (as in TETRAGNATHA). In ZYGIELLA webs a segment is missing as will be noticed in the window-frame species Z. LITTERATA. The centres are meshed in ARANEA and there is no segment missing. The hump-backed CYCLOSA builds a long silken band in the snare in which debris is placed. ARANEA DIADEMA is the garden spider and A. REAUMURI is the still more robust species which is usually encountered amongst heather or grass. It is probably our heaviest spider when fully grown. A. CUCURBITINA is bright green with a red tip to its abdomen.

The THERIDIIDAE are rather small pea-bodied spiders which make scaffolding webs. The largest species, THERIDION TEPIDARIORUM, is restricted to hot-houses where it slings egg-sacs with brown silk coverings in its web. T. NOTATUM is a garden species which has the remarkable habit of feeding its young from its own mouth.

The MIMETIDAE are pirates. ERO invades the webs of the THERIDIIONS and destroys the owners. It feeds entirely on other spiders. The LINYPHIIDAE include numerous small black-bodied "money-spiders". Spiders of this family build sheet-webs and they run upside down on the lower surface. These are the chief gossamer spiders, with ERIGONE as one of the commonest.

Spiders of the genus LINYPHIA are the largest and most conspicuous species whose sheet-webs adorn bushes and beautify the countryside when they become dew-laden in autumn.

By contrast with true spiders the HARVESTMEN (PHALANGIDEA) may seem to be dull. They differ from spiders in having two eyes, pincer jaws, no poison-glands, and a compact body which is not divided into two parts.

They are mostly long-legged, especially LIOBUNUM, and all feed at night. They catch small invertebrates, but they also act as scavengers and will sometimes chew vegetable matter. NEMASTOMA LUGUBRE is unlike the other species in having short legs and in being black with two white spots. It is common under stones, etc.

The PSEUDOSCORPIONS (CHELONETHIDA) are all small and even the largest, DACTYLOCHELIFER LATREILLEI, is only a few millimetres in length. They resemble a tailless scorpion and have pincer claws with poison glands, which help them to capture small insects.

They are to be found amongst leaves and under stones, bark, etc. LAMPROCHERNES NODOSUS is often to be seen attached to the legs of flies, a habit thought to provide it with a means of dispersal.

In conclusion let us remind ourselves of the Westmorland couplet :

“ Kill a spider, bad luck yours will be,  
Until of flies you’ve swatted fifty-three.”

### ARANEAE — SPIDERS

The spiders known to inhabit Great Britain comprise 563 species, of which 328 have been recorded from Yorkshire. The present list from the Scarborough district totals 217 species.

The collectors responsible for this list have been :—

A.E.B.—A. E. Barrett.

D.W.B.—D. W. Bevan.

H.B.—H. Britten, fil.

H.C.D.—H. C. Drake.

W.F.—W. Falconer.

R.J.F.—R. J. Flintoff.

R.G.—R. Gilchrist.

J.W.H.H.—J. W. H. Harrison.

T.S.—T. Stainforth.

R.A.T.—Rev. R. A. Taylor.

G.B.W.—G. B. Walsh.

W.P.W.—W. P. Winter.

The records of H. Britten have all been confirmed by Dr. A. Randall Jackson ; those of Rev. R. A. Taylor by W. Falconer (Spiders, Harvestmen and Pseudoscorpions), Dr. C. F. George (Earth-mites), and C. D. Soar (Water-mites).

The status of the species has not been given save where it has been stated by one or more of the collectors.

#### Abbreviations :

Nat.—“ The Naturalist.” m.—male. f.—female. imm.—immature.

At the time of capture several species found in the district represented additions to the County List :—

*Dysdera crocata* Koch, C. L.

*Zelotes apricorum* (Koch, L.)

*Cheiracanthium erraticum* (Walck.)

*Xysticus audax* (Schr.)

*Philodromus emarginatus* (Schr.)

*Trochosa spinipalpis* Cambr., F. O. P.

*Amaurobius terrestris* (Wid.)

*Singa hamata* (Clerck)

*Theridion varians* Hahn

*Theridion simile* Koch, C. L.

*Lessertia denticheleis* (Sim.)

*Mengea scopigera* (Grube)

*Sydera pholcommoides* (Cambr., O. P.)

The following are the sources of the records in this list :—

1. "The Victoria County History of Yorkshire"—Arachnida section
2. "The Spiders of Yorkshire"—W. Falconer, "Naturalist," 1918 to 1922.
3. "The Naturalist"—many records of all sections of Arachnida.
4. The record books of Mr. H. Britten and of the Scarborough Field Naturalists' Society.

The compilers are most grateful to Dr. W. S. Bristowe for his constant advice and for writing the introduction; also to Mr. E. Browning and Mr. J. H. P. Sankey for their help in checking the nomenclature, and to Mr. F. Dixon and Mr. H. Britten for many helpful suggestions.

The arrangement and nomenclature are as used in W. S. Bristowe's "The Comity of Spiders" (Ray Society, 2 vols., 1939-41), modified in the light of the decision of the International Conference on Zoological Nomenclature, Paris, June, 1948; at which it was agreed that Clerck's names should be valid. Where Clerck's name differs from that used by Dr. W. S. Bristowe, the latter name is given as a synonym.

## DICTYNIDAE

### DICTYNA Sundevall

*arundinacea* (L.)—Langdale Moors, Ringing Keld Bog, Levisham, 1913-14 (R.A.T.); Rillington (W.F., Nat., 1918, p. 321); Falling Foss, m. and f., 1936 (H.B.).

*uncinata* Thor—Scarborough, imm. m., 1913 (R.A.T.); Derwent Carrs, 1916 (T.S.).

*latens* (Fabr.)—Thornton-le-Dale, Levisham, 1914 (R.A.T., W.F., Nat., 1918, p. 321); Beckhole, 1930 (H.B.).

### CINIFLO Blackwall (= *Amaurobius* Koch, C. L.)

*ferox* (Walck.)—Uncommon; Scarborough, one f. (H.C.D., Nat., 1908, p. 399); Cayton Bay in hen roost, two f., 1913 (R.A.T.).

*similis* (Blackw.)—Common all over the district (R.A.T.).

*fenestralis* (Stroem)—Not as common as *C. similis*, but fairly frequent (R.A.T.).

## OONOPIDAE

### OONOPS Templeton

*pulcher* Templ.—Many records from Scarborough district (R.A.T., 1913; W.F., 1904 and 1918).

## DYSDERIDAE

### DYSDERA Latreille

*crocata* Koch, C. L.—Only record, Scarborough in a garden, three f. (R.G., Nat., 1906, p. 200).

### HARPACTEA Bristowe (= *Harpactes* Templeton)

*hombergi* (Scop.)—Scarborough, three f., 1913 (R.A.T.); Robin Hood's Bay and Falling Foss, f., 1936 (H.B.).

**SEGESTRIA** Latreille

*senoculata* (L.)—Beastcliff, etc. (T.S.) ; Hackness, 1913 (R.A.T.) ; common in the Scarborough district under the bark of dead trees (G.B.W.).

**DRASSIDAE****DRASSODES** Westring

*lapidosus* (Walck.)—Fairly common under stones and bark, 1913 (R.A.T.) ; Ellerbeck, etc. (H.B., Nat., 1936, p. 221).

*signifer* (Koch, C. L.)—Ringing Keld Bog, m., 1914 (R.A.T.).

**SCOTOPHOEUS** Simon

*blackwalli* (Thor)—Scarborough (G.B.W.).

**ZELOTES** Gistel

*apricorum* (Koch, L.)—Staintondale, four f., one imm. m., 1910 (T.S.) ; Hayburn Wyke, one m. (T.S., Nat., 1922, p. 391).

**MICARIA** Westring

*pulicaria* (Sund.)—Bickley (H.C.D., Nat., 1908, p. 299) ; Scarborough (W.F.) ; and Staintondale (R.A.T., Nat., 1921, p. 313) ; Rillington, 1927 (W.F.) ; Helwath Beck, 1937 (H.B.).

**CLUBIONIDAE****CLUBIONA** Latreille

*terrestris* Westr.—Forge Valley (R.A.T., Nat., 1921, p. 181) ; Ravenscar, m., 1904, and Rillington, f., 1927 (W.F.) ; Helwath Beck, f., 1937 (H.B.).

*stagnatilis* Kulcz.—Ringing Keld Bog, m., 1913 (R.A.T.).

*phragmitis* Koch, C. L.—Staintondale (T.S., Nat., 1921, p. 201).

*holosericea* (L.)—Staintondale (T.S., Nat., 1921, p. 201) ; Scarborough and Scalby, one m., one f., 1904 (W.F.).

*diversa* Cambr., O. P.—Staintondale and Cloughton, 1913-14 (R.A.T.) ; Rillington, f., 1927 (W.F.).

*reclusa* Cambr., O. P.—Many records from the Scarborough district (W.F., 1904 ; R.A.T., 1913-14).

*lutescens* Westr.—Raincliffe Wood, m. and f., 1913-14 (R.A.T.) ; Forge Valley and Scarborough (T.S., Nat., 1921, p. 201).

*trivialis* Koch, L.—Scarborough, m., 1913 (R.A.T.) ; Ringing Keld Bog, m. and f., 1904 (W.F.) ; Ellerbeck, m., 1937 (H.B.).

*brevipēs* Blackw.—Holē of Horcum, m., Helwath Beck, m., 1937 (H.B.).

*compta* Koch, C. L.—Langdale End and Hayburn Wyke (T.S., Nat., 1921, p. 205) ; Falling Foss and Littlebeck, 1914 (W.P.W.) ; Helwath Beck, m., 1937 (H.B.).

**CHEIRACANTHIUM** Koch, C. L.

*erraticum* (Walck.)—Ringing Keld Bog, common, 1904 (W.F.) ; Whitby Moors, f., 1913 (R.A.T.) ; Helwath Beck, f., 1936 (H.B.).

*virescens* (Sund.)—Rare ; Ellerbeck, f., 1936 (H.B.).

**AGROECA** Westring

*brunnea* (Blackw.)—On the moors near the Falcon Inn, where its egg-cocoons are not uncommon in the heather (G.B.W.).

*proxima* (Cambr., O. P.)—Thornton-le-Dale, 1914 (R.A.T.) ; Rillington, f., 1927 (W.F.).

**ZORA** Koch, C. L.

*spinimana* (Sund.)—Ravenscar, Levisham, etc. (W.F., Nat., 1921, p. 204).

#### ANYPHAENIDAE

**ANYPHAENA** Sundevall

*accentuata* (Walck.)—Hayburn Wyke (T.S., Nat., 1921, p. 203) ; Beckhole and Goathland, 1936-37 (H.B.).

#### THOMISIDAE—CRAB SPIDERS

**XYSTICUS** Koch, C. L.

*kochi* Thor—Forge Valley, one m., 1919 (T.S.).

*audax* (Schr.)—Rare ; Langdale End, one f., 1914 (R.A.T.).

*viaticus* (L.)—Widespread ; records numerous.

*sabulosus* (Hahn)—Rare ; Hole of Horcum, f., 1937 (H.B.).

*erraticus* (Blackw.)—Flamborough cliffs, one f. (T.S., Nat., 1921, p. 177) ; Hilla Green, 1924 (G.B.W.).

**OXYPTILA** Simon

*trux* (Blackw.)—Widespread ; records numerous.

**PHILODROMUS** Walckenaer

*aureolus* (Clerck)—Widespread ; records numerous.

*aureolus cespiticolis* Walck.—Rillington, Scarborough, Cloughton (W.F., Nat., 1921, p. 179) ; Scarborough South Cliff, m. and f., 1913 (R.A.T.).

*emarginatus* (Schr.)—Rare ; Wragby Wood, imm. f., Helwath Beck, f., 1936 (H.B.).

#### SALTICIDAE—JUMPING SPIDERS

**SALTICUS** Latreille

*scenicus* (Clerck)—ZEBRA SPIDER. Fairly common in and around Scarborough on walls and trees (G.B.W.) ; Rillington, abundant (W.F., Nat., 1922, p. 235).

*cingulatus* (Panz.)—Rillington and Scarborough (W.F., R.A.T., Nat., 1922, p. 235).

**HELIOPHANUS** Koch, C. L.

*cupreus* (Walck.)—Rare ; Levisham, near station, one f., 1906 (W.F.).

**NEON** Simon

*reticulatus* (Blackw.)—Ringing Keld Bog, one f., Hayburn Wyke, one f., 1904-5 (W.F.) ; Langdale End, one f., 1913 (R.A.T.).

**EUOPHRYS** Koch, C. L.

*frontalis* (Walck.)—Scarborough Mere, Scalby Mills, m. and f., Levisham, one m., 1904 (W.F.).

#### LYCOSIDAE—WOLF SPIDERS

**LYCOSA** Latreille

*amentata* (Clerck) (= *L. saccata* L.)—Records numerous ; one of the commonest of the genus (R.A.T.) ; Rillington, f. of the form described as *L. postuma* Cambr., O. P., 1927 (W.F.).



**nigriceps** Thor—Scarborough and Ringing Keld Bog, m. and f., 1904 (W.F.) ; 1913 (R.A.T.) ; Hayburn Wyke and Beastcliff (T.S., Nat., 1922, p. 174).

**pullata** Clerck—Scarborough, fairly common, 1913 (R.A.T.).

**tarsalis** Thor—Ravenscar (W.F., Nat., 1922, p. 233).

**lugubris** (Walck.)—Hole of Horcum, 1937 (H.B.) ; Falling Foss (W.P.W., Nat., 1922, p. 174).

**herbigrada** (Blackw.)—Robin Hood's Bay, f. (T.S., Nat., 1922, p. 392).

#### **TARENTULA** Clerck

**accentuata** (Latr.)—Bickley, one m. and one f. (H.C.D., Nat., 1908, p. 299).

**pulverulenta** (Clerck) (= **T. carinata** Oliv.)—Scarborough, 1913 (R.A.T.) ; Beckhole, 1936 (H.B.).

#### **TROCHOSA** Koch, C. L.

**terricola** Thor—Widespread and fairly common, 1913 (R.A.T.).

**spinipalpis** Cambr., F. O. P.—Helwath Beck, four f., 1937 (H.B.).

#### **ARCTOSA** Koch, C. L.

**perita** (Latr.)—Scarborough North Bay, a few imm. examples, 1904 (W.F.).

#### **PIRATA** Sundevall

**hygrophila** (Thor)—Goathland, one f. (J.W.H.H., Nat., 1915, p. 27).

**piratica** (Clerck)—Fairly common near Scarborough, 1913 (R.A.T.) ; Fylingdales Moor, two f., 1936 (H.B.) ; Flamborough, 1947 (G.B.W.).

### PISAURIDAE

#### **PISAURA** Simon

**mirabilis** (Clerck) (= **P. listeri** Scop.)—Robin Hood's Bay, one f., 1911 (T.S.) ; Langdale End, 1921 (D.W.B.) ; Littlebeck, 1936 (H.B.).

### AGELENIDAE

#### **CRYPHOECA** Thor

**silvicola** (Koch, C. L.)—Silpho Moor, one f., 1913 (R.A.T.) ; Falling Foss and Littlebeck (H.B., 1936 and W.P.W., Nat., 1921, p. 315).

#### **AMAUROBIUS** Koch, C. L.

**atropos** (Walck.)—Common in the district, a northern species rarely found in the south. Very large numbers taken from under loose stones, Bloody Beck, 1913 (R.A.T.).

**terrestris** (Wid.)—Cayton Bay, 3rd record of this rare spider for Britain (R.G., Nat., 1906, p. 200) ; Scarborough (H.C.D., Nat., 1908, p. 299).

#### **ARGYRONETA** Latreille

**aquatica** (Clerck)—Local and uncommon.

#### **TEGENARIA** Latreille

**domestica** (Clerck)—HOUSE SPIDER. Abundant everywhere.

#### **TEXTRIX** Sundevall

**denticulata** (Oliv.)—Common ; large numbers of both sexes taken above Cloughton Wyke from under stones, 1913 (R.A.T.).



**ANTISTEA** Simon

*elegans* (Blackw.)—A scarce spider frequenting bogs ; Ringing Keld Bog, one f., Scalby Mills, four m., two f., 1904 (W.F.).

**HAHNIA** Koch, C. L.

*nava* (Blackw.)—Rare ; Langdale End, one m., 1913 (R.A.T.).

*montana* (Blackw.)—Widespread, many records.

## TETRAGNATHIDAE

**TETRAGNATHA** Latreille

*extensa* (L.)—Harwood Dale, f. (R.G., Nat., 1906, p. 200) ; Rillington, m. and f., 1927 (W.F.).

*montana* Sim.—Widespread, many records.

*obtusa* Koch, C. L.—Rare ; a south of England spider. Beckhole, 1936 (H.B.).

**PACHYGNATHA** Sundevall

*degeeri* Sund.—Frequent in the Scarborough district (R.A.T.).

*clercki* Sund.—Widespread, many records.

## ARGYOPIDAE

**META** Koch, C. L.

*reticulata* (L.)—The commonest British spider, abundant everywhere.

*forma mengii* Thor, the smaller, darker spring brood, Beckhole, Sleights, etc., very common, 1936 (H.B.).

*merianae* (Scop.)—Widespread, many records.

**CYCLOSA** Menge

*conica* (Pall.)—Rare ; Beckhole, melanic m., 1936 (H.B.).

**SINGA** Koch, C. L.

*hamata* (Clerck)—Rare ; Fylingdales Moor, imm. f., 1936 (H.B.) ; Oliver's Mount, m. and f., 1913 (R.A.T.).

**ARANEA** Linnaeus

*diademata* Clerck—Widespread ; many records.

*cucurbitina* Clerck—Common on trees throughout the district (G.B.W.) ; *forma opisthographa* Kulcz.—Robin Hood's Bay, m., 1937 (H.B.).

*sturmi* (Hahn)—Scampston, one f. (W.F., Nat., 1921, p. 84).

*umbratica* Clerck (= *A. sexpunctata* L.)—Hackness, etc., 1914 (R.A.T.) ; Falling Foss, 1936 (H.B.).

*quadrata* Clerck (= *A. reaumuri* Scop.)—Falling Foss, f., Ellerbeck, m. and f., Hole of Horcum, 1936-37 (H.B.).

*cornuta* Clerck (= *A. foliata* Fourcr.)—Cayton Bay, Filey (T.S., R.A.T., Nat., 1921, p. 85).

**ZYGIELLA** Cambridge, F. O. P.

*x-notata* Clerck (= *Z. litterata* Oliv.)—Common in bushes and hedgerows (R.A.T.).

*atrica* (Koch, C.L.)—Widespread ; many records.

## THERIDIIDAE

**THERIDION** Walckenaer

*vittatum* Koch, C. L.—Forge Valley, one m., 1919 (T.S.) ; Beckhole, 1936 (H.B.) ; Rillington, f., 1927 (W.F.).

*sisyphium* (Clerck) (= *T. notatum* L.)—Widespread ; many records.  
*varians* Hahn—Scarborough (H.C.D., Nat., 1905, p. 299) ; Scampston, f., 1906 (W.F.).

*simile* Koch, C. L.—Thornton-le-Dale and Levisham (R.A.T., 1914 and W.F., Nat., 1918, p. 321) ; Beckhole, etc., 1936 (H.B.).

*tepidariorum* Koch, C. L.—The very common greenhouse spider.

*denticulatum* (Walck.)—Scarborough, 1904 (W.F.) ; Derwent Carrs, 1916 (T.S.).

*pallens* Blackw.—Forge Valley and Ringing Keld Bog, 1913-14 (R.A.T.) ; Helwath Beck, 1936 (H.B.).

*lineata* (Clerck) (= *T. redimitum* L.)—Wragby Wood, Ellerbeck and Helwath Beck, 1936-37 (H.B.) ; Scarborough South Cliff, 1913 (R.A.T.).

#### PHOLCOMMA Thor

*gibbum* (Westr.)—Widespread ; many records.

#### THEONOE Simon

*minutissima* (Cambr., O. P.)—Rare ; Ringing Keld Bog, two m., 1913 (R.A.T.).

#### STEARODEA Sundevall

*bipunctata* L.—Scarborough, 1913 (R.A.T.) ; Levisham (J.W.H.H.).

#### ROBERTUS Cambridge, O. P.

*lividus* (Blackw.)—Fairly common (R.A.T.).

#### NESTICUS Thor

*cellulanus* Clerck—Locally common ; Hayburn Wyke, many m. and f., 1904 (W.F.) ; Levisham and Goathland (W.F., Nat., 1920, p. 387).

### MIMETIDAE

#### ERO Koch, C. L.

*furcata* (Vill.)—Cayton Bay, 1913 (R.A.T.) ; Levisham, Ringing Keld Bog, Hayburn Wyke, etc., 1904-6 (W.F.). These records were entered as *E. thoracica* Wid. and may refer to *E. furcata* (Vill.), or to *E. cambridgei* Kulcz., as these two species were not separated until 1912.

### LINYPHIIDAE

#### CERATINELLA Emerton

*brevis* (Wid.)—Widespread ; many records.

*brevipes* (Westr.)—Widespread ; many records.

#### BLANIARGUS Simon

*herbigradus* (Blackw.)—Thornton-le-Dale, f., 1914 (R.A.T.) ; Scarborough Mere (W.F., Nat., 1919, p. 267).

#### METOBOCTRUS Simon

*prominulus* (Cambr., O. P.)—Scarborough, one f., 1913 (R.A.T.) ; Cayton Bay, three f. (W.F., Nat., 1919, p. 236) ; Helwath Beck, m., 1937 (H.B.).

#### PANAMOMOPS Simon

*sulcifrons* (Wid.)—Rare ; Scarborough (H.C.D., Nat., Aug., 1908) ; Langdale End, one f. (R.A.T., Nat., 1919, p. 135).

**LOPHOCARENUM** Menge

*nemorale* (Blackw.)—Ringing Keld Bog, three m. and three f., among pine needles, 1913 (R.A.T.) ; Staintondale, f. (T.S., Nat., 1919,

**TRICHOPTERNA** Kulczynski

p. 22).

*mengei* (Sim.)—Ringing Keld Bog, among sphagnum, 1913 (R.A.T.).

*thorelli* (Westr.)—Rare ; Langdale End, one m., 1913 (R.A.T.).

**ENTELECARA** Simon

*acuminata* (Wid.)—Rare ; Beckhole, m., 1936 (H.B.).

*erythropus* (Westr.)—Widespread ; many records.

**MINYRIOLUS** Simon

*pusillus* (Wid.)—Rare ; Ringing Keld Bog, m. and f., 1913 (R.A.T.).

**NEMATOGMUS** Blackwall

*obscurus* (Blackw.)—Rillington, m. and f., 1927 (W.F.) ; Sleights, 1936 (H.B.).

**SILOMETOPUS** Simon

*elegans* (Cambr., O. P.)—Rare ; Ringing Keld Bog, one m., two f., 1914 (R.A.T.) ; Sleights, m., 1936 (H.B.).

**HYPSELISTES** Simon

*jacksoni* (Cambr., O. P.)—Rare ; Ellerbeck, imm. f., 1936 (H.B.).

**POCADICNEMIS** Simon

*pumila* (Blackw.)—Widespread ; many records.

**GNATHONARIUM** Karsch

*dentatum* (Wid.)—Carr Naze, Filey (T.S., Nat., 1919, p. 402) ; Forge Valley (T.S., Nat., 1922, p. 391).

**TISO** Simon

...

*vagans* (Blackw.)—Scarborough, m., 1913 (R.A.T.) ; Helwath Beck, m., 1937 (H.B.).

**DIPLOCEPHALUS** Berthold

*cristatus* (Blackw.)—Scarborough, f., 1913 (R.A.T.).

*latifrons* (Cambr., O. P.)—Cayton and Oliver's Mount, 1913 (R.A.T.).

*permixtus* (Cambr., O. P.)—Sleights, m., 1935 (H.B.).

*picinus* (Blackw.)—Raincliffe Wood, f., 1904 (W.F.) ; Oliver's Mount, 1913 (R.A.T.) ; Beckhole, m., 1936 (H.B.).

**SAVIGNIA** Blackwall

*frontata* Blackw.—Numerous records near Scarborough (R.A.T., H.B.).

**ARAEONCUS** Simon

*humilis* (Blackw.)—Helwath Beck, m., 1936 (H.B.).

*hiemalis* (Blackw.)—Raincliffe Wood and Ringing Keld Bog, m. and f., 1913 (R.A.T.) ; Folkton, f. (W.F., Nat., 1919, p. 25).

**DICYMBIUM** Menge

*nigrum* (Blackw.)—Widespread ; many records.

*tibiale* (Blackw.)—Rare ; Ringing Keld Bog, m. and f., 1913 (R.A.T.).

**MONOCEPHALUS** Smith, F. P.

*fuscipes* (Blackw.)—Raincliffe Wood, f., 1904 (W.F.) ; Beckhole, f., 1936 (H.B.).

**THYREOSTHENIUS** Simon

*biovatus* (Cambr., O. P.)—Helwath Beck, in nests of *Formica pratensis*, 1936-37 (H.B.); common in nests of *F. rufa* at Barns Cliff and in Langdale (G.B.W.).

*becki* (Cambr., O. P.)—Rare; Raincliffe Wood, one f., 1914 (R.A.T.).

**TROXOCHRUS** Simon

*scabriculus* (Westr.)—Rillington, f., 1927 (W.F.).

**TAPINOCYBA** Simon

*praecox* (Cambr., O. P.)—Flamborough (T.S., Nat., 1919, p. 140).

**AULACOCYBA** Simon

*subitanea* (Cambr., O. P.)—Derwent Carrs (T.S.); Rillington, numerous (W.F., Nat., 1919, p. 235).

**COLOBOCYBA** Simon

*pallens* (Cambr., O. P.)—Raincliffe Wood, two f., a rare spider, 1904 (W.F.); Ringing Keld Bog., one m., 1913 (R.A.T.).

**WALCKENAERA** Blackwall

*acuminata* Blackw.—Oliver's Mount, f., 1914 (R.A.T.); Filey Cliffs (T.S., Nat., 1919, p. 268).

**WIDERIA** Simon

*antica* (Wid.)—Scarborough and Cloughton, m. and f., 1913 (R.A.T.); 1904 (W.F.).

*fugax* (Cambr., O. P.)—Rare; Raincliffe Wood, one m., 1913 (R.A.T.).

**TRACHYNELLA** Braendegaard

*nudipalpis* (Westr.)—Scarborough South Cliff, one f., 1913 (R.A.T.); Sleights, f., Goathland, f., 1938-39 (H.B.).

**EVANSIA** Cambridge, O. P.

*merens* (Cambr., O. P.)—Harwood Dale in nests of *Formica rufa* (G.B.W.).

**CORNICULARIA** Menge

*cuspidata* (Blackw.)—Widespread; many records.

*unicornis* (Cambr., O. P.)—Ringing Keld Bog, one f., 1904 (W.F.); Forge Valley, one m., 1914 (R.A.T.).

*vigilax* (Blackw.)—Hayburn Wyke, f. (T.S., Nat., 1922, p. 391).

**GONATIUM** Menge

*rubellum* (Blackw.)—Widespread; many records.

*rubens* (Blackw.)—Very common in bushes and shrubs (R.A.T.).

**HYPOMMA** Dahl

*bituberculata* (Wid.)—Ravenscar, f., 1904 (W.F.); Scarborough, m. and f., 1913 (R.A.T.).

*cornuta* (Blackw.)—Rillington, etc. (W.F., Nat., 1919, p. 324); Langdale End (T.S., Nat., 1922, p. 391).

**DISMODICUS** Simon

*bifrons* (Blackw.)—Widespread; many records.

**GONGYLIDIUM** Menge

*rufipes* (L.)—Scarborough, Cayton and Levisham, 1906 (W.F.) and 1913 (R.A.T.); Beckhole, etc., 1936-37 (H.B.).

**ERIGONIDIUM** Simon

*graminicolum* (Sund.)—Rillington, f., 1927 (W.F.).

**ERIGONE** Savory

*dentipalpis* (Wid.)—Scarborough South Cliff, m. and f., 1913 (R.A.T.) ; Ellerbeck, f., 1936 (H.B.).

*atra* (Blackw.)—Scarborough South Cliff, m. and f., 1913 (R.A.T.).

*promiscua* (Cambr., O. P.)—Widespread ; many records.

**GONGYLIDIELLUM** Simon

*vivum* (Cambr., O. P.)—Hayburn Wyke, f., 1905 (W.F.) ; Ringing Keld Bog, m., 1904 (W.F.) and 1913 (R.A.T.).

**OEDOTHORAX** Bertkau

*agrestis* (Blackw.)—Goathland (W.F., Nat., 1922, p. 325) ; Forge Valley and Langdale End (T.S., Nat., 1922, p. 391).

*fuscus* (Blackw.)—Widely distributed and quite common (W.F.).

*retusus* (Westr.)—Widespread ; many records.

*apicatus* (Blackw.)—Hole of Horcum and Helwath Beck, 1937 (H.B.).

*gibbosus* (Blackw.)—Ringing Keld Bog, m., 1914 (R.A.T.).

*tuberosus* (Blackw.)—Beckhole, 1936 (H.B.).

**LOPHOMMA** Menge

*punctata* (Blackw.)—Scalby and Ringing Keld Bog., m. and f., a hygrophilous species and a scarce spider, 1904 (W.F.).

**CORYPHAEOLANUS** Thor

*distinctus* (Sim.)—Rillington, f., 1927 (W.F.).

**LESSERTIA** Smith, F. P.

*dentichelis* (Sim.)—Scalby Mills, under tidal drift, m. (T.S., Nat., 1920, p. 23) ; third British record.

**PEPONOCRANIUM** Simon

*ludicrum* (Cambr., O. P.)—Scarborough, 1904 (W.F.) and 1913 (R.A.T.) ; Beckhole, etc., 1936 (H.B.).

**MASO** Simon

*sundevalli* (Westr.)—Widespread ; many records.

**HILAIRA** Simon

*excisa* (Cambr., O. P.)—Rare ; Ringing Keld Bog., one f., and Hayburn Wyke, two f. One of the Hayburn Wyke specimens was remarkable in having only half of its complement of eyes in a serviceable condition, two laterals on the same side being obsolete and two centrals being imperfectly formed (W.F., Nat., 1906, p. 29).

**PHAULOTHRIX** Bertkau

*huthwaiti* (Cambr., O. P.)—Rare ; Hayburn Wyke, m. and f., under stones on foreshore, 1905 (W.F.) ; Derwent Carrs, 1916 (T.S.).

**PORRHOMMA** Simon

*pygmaeum* (Blackw.)—Cayton Bay, Raincliffe Wood, etc., 1914 (R.A.T.) ; Beckhole, 1936 (H.B.).

*microphthalmum* (Cambr., O. P.)—Ringing Keld Bog, one f., 1904, Sleights, f., 1936 (H.B.).

*egeria* Sim.—Rare ; Raincliffe Wood, one f., 1914 (R.A.T.).

*pallidum* Jacks.—Scarborough, 1913 (R.A.T.).

*proserpina* (Sim.)—Helwath Beck, 1937 (H.B.).

### **BATHYPHANTES** Menge

*approximatus* (Cambr., O. P.)—Raincliffe Wood, one m., 1914 (R.A.T.).

*nigrinus* (Westr.)—Widespread in damp places ; many records.

*concolor* (Wid.)—Widespread ; many records.

*gracilis* (Blackw.)—Ravenscar, m. and f., 1904 (W.F.).

*dorsalis* (Wid.)—Scampston (W.F., Nat., 1920, p. 203) ; Derwent CARRS, 1916 (T.S.).

*pullatus* (Cambr., O. P.)—Scampston, one f. (W.F., Nat., 1920, p. 62) ; Goathland and Helwath Beck, 1937 (H.B.).

### **POECILONETA** Kulczynski

*globosa* (Wid.)—Widespread ; many records.

### **LABULLA** Simon

*thoracica* (Wid.)—Raincliffe Wood, m., 1914 (R.A.T.) ; Falling Foss (W.P.W.) ; Hayburn Wyke (W.F., Nat., 1920, p. 296).

### **LINYPHIA** Latreille

*montana* (Clerck)—Scarborough, plentiful, 1904 (W.F.) and 1913 (R.A.T.) ; Beckhole, etc., 1936 (H.B.).

*insignis* Blackw.—Raincliffe Wood, m. and f., 1913 (R.A.T.) ; Scampston (W.F., Nat., 1920, p. 297).

*hortensis* Sund.—Scarborough, 1913 (R.A.T.) ; Beckhole, 1936 (H.B.).

*peltata* Wid.—Falconer says, "Widely distributed throughout the county," but no specific records from the Scarborough district.

*clathrata* Sund.—Scarborough South Cliff, f., 1914 (R.A.T.) ; Goathland, f. and Littlebeck, m., 1936 (H.B.).

*pusilla* Sund.—Widespread ; many records.

### **STEMONYPHANTES** Menge

*lineata* (L.)—Scarborough, m. and f., 1913 (R.A.T.).

### **TAPINOPA** Westring

*longidens* (Wid.)—Holbeck Gardens (W.F., Nat., 1922, p. 392) ; Fylingdales, Sleights, 1935 (H.B.) ; Oliver's Mount, m. and f., 1913 (R.A.T.).

### **BOLYPHANTES** Menge

*alticeps* (Sund.)—Oliver's Mount, 1913 (R.A.T.) ; Helwath Beck, f., 1936 (H.B.).

*luteolus* (Blackw.)—Scarborough South Cliff, m. and f., 1913 (R.A.T.) ; Helwath Beck, f., 1937 (H.B.).

### **LEPTHYPHANTES** Menge

*minutus* (Blackw.)—Scarborough, one f., 1914 (R.A.T.) ; Hole of Horcum and Falling Foss, 1914 (W.P.W.).

*nebulosus* (Sund.)—Local ; Scarborough, 1913-14 (R.A.T.).

*alacris* (Blackw.)—Raincliffe Wood, f., 1913 (R.A.T.) ; Scampston, etc. (W.F., Nat., 1920, p. 255).

*cristatus* (Menge)—Local ; Hayburn Wyke, f. (T.S., Nat., 1920, p. 205) ; Levisham and Goathland, 1906 (W.F.).

*obscurus* (Blackw.)—Local ; Hayburn Wyke, Raincliffe Wood, 1904 (W.F.) ; Beckhole, 1936 (H.B.).

*pallidus* (Cambr., O. P.)—Rare ; Raincliffe Wood, two m., 1904 (W.F.).

*leprosus* (Ohl.)—Scarborough in cellar, m., 1914 (R.A.T.) ; Derwent Carrs, 1916 (T.S.).

*zimmermanni* Bertk.—The most abundant and generally distributed species of the genus in Yorkshire, many records.

*tenuis* (Blackw.)—Less abundant than *L. zimmermanni*, but widely dispersed.

*flavipes* (Blackw.)—Langdale End, m. (T.S., Nat., 1920, p. 205).

*ericæus* (Blackw.)—Widespread ; many records.

*mengei* Kulcz.—Goathland, m., 1938 (H.B.).

*tenebricola* (Wid.)—Hole of Horcum, 1938 (H.B.).

### DRAPETISCA Menge

*socialis* (Sund.)—Hayburn Wyke, 1904 (W.F.) ; on tree trunks, Raincliffe Wood, 1913 (R.A.T.).

### CENTROMERUS Dahl

*bicolor* (Blackw.)—"Widely diffused and stations numerous in all parts" (W.F., Nat., 1920, p. 21), but no specific records from the Scarborough district.

*concinus* (Thor)—Generally found with *C. bicolor*, but reaches to a greater height on the Yorkshire hills and is more abundant (W.F., Nat., 1920, p. 21) ; Ringing Keld Bog, 1913 (R.A.T.).

*silvaticus* (Blackw.)—Raincliffe Wood, f., 1914 (R.A.T.).

*prudens* (Cambr., O. P.)—Ravenscar, one f., 1904 (W.F.) ; Raincliffe Wood, f., 1914 (R.A.T.).

### RHABDORIA Hull

*diluta* (Cambr., O. P.)—Ringing Keld Bog, one f., 1913 (R.A.T.) ; Scampston (W.F., Nat., 1920, p. 61).

### MACRARGUS Dahl

*rufus* (Wid.)—Widespread ; many records.

### OREONETIDES Strand

*abnormis* (Blackw.)—Local ; Scarborough, m. and f., 1913 (R.A.T.) ; Beastcliff (T.S., Nat., 1920, p. 21).

### MENGEA Cambridge, F. O. P.

*scopigera* (Grube)—Ravenscar from heather, one m., 1904 (W.F.) ; Goathland, one f. (W.F., Nat., 1919, p. 403).

### AGYNETA Hull

*conigera* (Cambr., O. P.)—Hayburn Wyke, 1904 (W.F.) ; Langdale End and Raincliffe Wood, 1914 (R.A.T.) ; Rillington, 1927 (W.F.).

*cauta* (Cambr., O. P.)—Rillington, f., 1927 (W.F.).

### MICRONETA Menge

*viaria* (Blackw.)—Widespread ; many records.

### MEIONETA Hull

*saxatilis* (Blackw.)—Scarborough and Ringing Keld Bog, 1913 (R.A.T.) ; Goathland and Rillington, 1927 (W.F.).



*rurestris* (Koch, C. L.)—Very widespread ; many records.

*gulosa* (Koch, L.)—Rare ; Ravenscar from heather, m. and f., 1904 (W.F.) ; near its southern limits in this country.

#### SINTULA Simon

*cornigera* (Blackw.)—Rare ; Ringing Keld Bog, three f., 1913 (R.A.T.) ; Hayburn Wyke, 1919 (T.S.).

#### SYEDRA Simon

*pholcommoides* (Cambr., O. P.)—Very rare ; Cornelian Bay from grass roots on the cliffs, one f., Aug., 1905 (W.F.).

### PHALANGIDEA — HARVESTMEN

There are twenty British species, of which fifteen have been recorded in the Scarborough district. Genera have been re-arranged as a result of recent work by C. F. Roewer and other continental workers.

#### LEIOBUNUM Koch, C. L.

*rotundum* (Latr.)—Widespread and abundant ; many records.

*blackwallii* Meade—Rare ; Sleights, f., 1935 (H.B.).

#### PHALANGIUM Linnaeus

*opilio* L.—Many records, most plentiful on or near the coast.

#### OPILIO Herbst

*parietinus* De G.—Scarborough, 1913 (R.A.T.) ; Sleights, 1937 (H.B.).

#### PLATYBUNUS Koch, C. L.

*triangularis* (Herbst)—Widespread ; many records.

#### MEGABUNUS Meade

*diadema* (Fabr.)—Langdale End and Raincliffe Wood, 1914 (R.A.T.) ; Hole of Horcum, 1938 (H.B.).

#### MITOPUS Thor

*morio* (Fabr.)—Scarborough, 1913 (R.A.T.) ; Falling Foss, 1914 (W.P.W.) ; Hole of Horcum, Helwath Beck, 1937 (H.B.).

var. *alpinus* Herbst—Scarborough cliffs and Raincliffe Wood, 1913-14 (R.A.T.).

#### OLIGOLOPHUS Koch, C. L.

*agrestis* (Meade)—Scarborough and Ringing Keld Bog, 1913 (R.A.T.) ; Helwath Beck, m., 1932 (H.B.).

*hansanii* (Kraepel) — Rare ; Scarborough, North Bay, m., 1905 (W.F.).

*tridens* (Koch, C. L.)—Scarborough, Cloughton, etc., 1913 (R.A.T.) ; Hayburn Wyke, Falling Foss, etc., 1936-37 (H.B.).

#### ODIELLUS Roewer

*palpinalis* (Herbst)—Ringing Keld Bog and Oliver's Mount, 1913 (R.A.T.) ; Staintondale, Goathland, etc., 1936-37 (H.B.).

#### LACINIUS Thor

*ephippiatus* (Koch, C. L.)—Widespread ; many records.

#### NEMASTOMA Koch, C. L.

*lugubre* (Muell., O. F.)—Very common all over the district (R.A.T.).

*chrysomelas* (Herm.)—Levisham, 1905 (W.F.) ; Scarborough, Staintondale, Langdale End, etc., 1913-14 (R.A.T.).

## CHELONETHIDA — PSEUDOSCORPIONS

Of the twenty-three species recorded in Britain, seven have been found in the Scarborough district. The nomenclature follows that used in M. Beier's "Pseudoscorpionidae," Das Tierreich, Berlin, 1932.

**CHTHONIUS** Koch, C. L.

*ischocheles* (Herm.) (= *C. rayi* Koch, L.)—Common.

*tetrachelatus* (Preyss.)—Common near the sea.

**NEOBISIUM** Leach

*muscorum* (Leach)—Numerous stations near Scarborough (G.B.W., W.F., R.A.T.).

**LAMPROCHERNES** Toemoesvary

*nodosus* (Schr.)—Falsgrave on legs of fly, 1913 (R.A.T.) ; Saltergate from refuse in cattle shed, 1937 (H.B.).

**ALLOCHERNES (TOXOCHERNES)** Beier

*dubius* (Cambr., O. P.)—Hayburn Wyke, one example, 1919 (T.S.).

**PSELAPHOCHERNES** Beier

*scorpioides* (Herm.)—Barns Cliff, Harwood Dale, 1934 (G.B.W.).

**DACTYLOCHELIFER** Beier

*latreillei* (Leach)—Flixton (G.B.W.).

## ACARI — MITES and TICKS

The records of the Acari, with the possible exceptions of the Eriophyidae and Ixodidae, are very meagre. The nomenclature is as suggested by Mr. C. D. Radford and Mr. E. Browning of the British Museum of Natural History, to whom the compilers' sincere thanks are due.

In "Report on Forest Research," 1953, Dr. P. W. Murphy gives a list of fifty-three species of mites recorded from the natural heathland and forest plantings of the Allerston area. The list includes two species new to science, and two genera and five species new to Britain. Some of the raw humus at Allerston was found to contain more than a quarter of a million mites and collembola per square metre.

## ERIOPHYIDAE — GALL MITES

*Eriophyes pteridis* Moll.—Fairly common on *Pteridium*.

*E. tenuis* (Nal.)—Scalby on *Dactylis glomerata* (W.F.).

*E. psilaspis* Nal.—Scampston on *Taxus* (W.F.).

*E. tetanothrix* (Nal.)—Widely distributed on *Salix cinerea*.

*E. salicinus* Nal. (= *E. salicis*)—Widely distributed on *Salix caprea*.

*E. spec.* Houard No. S. 53—Cornelian Bay, Scarborough Mere on *Salix fragilis* and *S. alba* (H.J.B.).

*E. lionotus* (Nal.)—Hayburn Wyke on *Betula* (H.J.B.).

*E. rudis* (Can.)—Big-Bud on *Betula*, common.

*E. brevitaris* (Fock.)—Bempton, Cayton Bay, Ellerburn on *Alnus* (H.J.B., W.F.).

*E. laevis* (Nal.)—Abundant on *Alnus*.

- E. nalepai* (Fock.)—Abundant on *Alnus*.  
*E. axillaris* Schl.—Langdale End on *Alnus*, common (G.B.W.).  
*E. avellanae* (Nal.)—Big-Bud on *Corylus*, common.  
*E. atrichus* (Nal.)—Staintondale on *Stellaria graminea* (H.J.B.).  
*E. ribis* (Westw.)—Big-Bud on *Ribes nigrum*, widespread and plentiful.  
*E. similis* (Nal.)—Common on *Prunus spinosa*.  
*E. gibbosus* (Nal.)—Beast Cliff on *Rubus plicatus* (H.J.B.).  
*E. piri* (Pgst.)—Fairly common and generally distributed on *Sorbus*.  
*E. goniothorax* (Nal.)—Common on *Crataegus*.  
*E. euaspis* (Nal.)—Robin Hood's Bay on *Lotus corniculatus* (H.J.B.).  
*E. tiliae* (Pgst.)—Hayburn Wyke on *Tilia*, abundant (G.B.W.).  
     var. *liosoma* (Nal.)—Scarborough (G.B.W.).  
*E. piri typicus* (Pgst.) (= *E. crataegi* Can.)—Common on *Crataegus* (W.F.).  
*E. macrorrhynchus* (Nal.)—Hackness, Ellerburn on *Acer pseudoplatanus*, Pickering on *A. campestre* (H.J.B., R.M.B.).  
*E. spec.* Houard No. 3976 or 3977.—Hayburn Wyke on *Acer pseudoplatanus* (H.J.B.).  
*E. empetri* Lindr.—Common on *Empetrum*.  
*E. thomasi* (Nal.)—Hackness on *Thymus serpyllum*, plentiful (W.F.).  
*E. galii* (Karp.)—Scalla Moor, Ravenscar, Beast Cliff on *Galium aparine* (H.J.B.).  
*E. pilosellae* (Nal.)—Troutdale, Fylingdales Moor on *Hieracium pilosella* (H.B.).  
*E. ulmi* Nal.—Scampston on *Ulmus* (W.F.).  
*Phyllocoptes gymnaspiis* Nal.—Staintondale on *Acer* (W.F.).  
*P. acericola* Nal.—Staintondale on *Acer* (W.F.).  
*P. fraxini* Nal.—Scarborough on *Fraxinus* (G.B.W.).  
*P. epiphyllus* Nal.—Scampston on *Fraxinus* (W.F.).  
*Epitrimerus trilobus* (Nal.)—Scarborough on *Sambucus* (J.M.B.).  
*E. salicobius* (Nal.)—Raincliffe Wood on *Salix* sp. (G.B.W.).

#### DEMODICIDAE

*Demodex folliculorum* Sim.—Common and generally distributed.

#### ORIBATIDAE — BEETLE MITES

- Belba clavipes* (Herm.)—Ringing Keld Bog, 1913 (R.A.T.) ; Seamer Moor, 1920 (G.B.W.).  
*B. geniculosa* Oud.—Ringing Keld Bog, 1913 (R.A.T.) ; Staintondale, 1914 (W.P.W.).  
*Hydrozetes lacustris* (Mich.)—Cayton Bay pond, abundant, 1914 (R.A.T.) ; Seamer Moor, 1933 (G.B.W.).

#### THROMBIDIIDAE — EARTH MITES

- Allothrombium fuliginosum* (Herm.)—Fairly numerous, Raincliffe Wood and Oliver's Mount, etc., 1913 (R.A.T.). British examples appear to be var. *norvegicum* Berl. (J.E.H.).  
*Anystis baccharum* L.—The ubiquitous Red Spider.  
*Bdella vulgaris* Herm.—Grosmont, 1936 (A.E.B.).

*Calypstostoma expalpis* (Herm.)—Robin Hood's Bay and Hackness, 1914 (R.A.T.).

*Myobia musculi* (Schränk)—Goathland, 1935 (R.J.F.).

*Myocoptes musculus* Koch—Goathland, on bank-vole, 1936 (R.J.F.).

*Radfordia multivaga* (Poppe)—Goathland on bank-vole, 1936 (R.J.F.).

*Ritteria nemorum* Koch—Widely distributed; many records.

*Trombidium holosericeum* (L.)—Plentiful in the district. The first printed record of a mite probably refers to this species. It was included in Martin Lister's "*Araneorum Angliæ*," 1678, as a Two-eyed Spider. "I have noticed them in very great numbers near the sea-shore at Scarborough. Our herdsmen look upon them as creatures very much to be dreaded, indeed it is considered certain death to oxen if by chance they are eaten by them in the grass."

### PARASITIDAE (=GAMASIDAE)

*Amblysius obtusus* Kr.—Beckhole, 1936 (H.B.).

*Dermanyssus gallinae* De G.—Red Mite. Common on poultry and cage birds.

*Euhaemogamasus horridus* (Mich.)—Abundant in moles' nests all over the district (G.B.W.).

*Eulaelaps stabularis* (Koch)—Goathland, 1935 (H.B.).

*Euryparasitus emarginatus* Koch—Goathland, 1935 (R.J.F.).

*E. terribilis* (Mich.)—Abundant in moles' nests all over the district (G.B.W.).

*Haemogamasus nidi* Mich.—Goathland, 1935 (R.J.F.).

*Laelaps festivus* Koch—Goathland, 1935 (R.J.F.).

*Lasioseius plumosus* Oud.—Beckhole, 1936 (H.B.).

*Leiodinychus kramerii* Can.—Probably common (W.F.).

*Liponyssus macedonicus* Hirst—Goathland, 1935 (R.J.F.).

*Parasitus coleoptratorum* (L.)—Very common on manure, etc. (W.F.).

*Pergamasus crassipes* L.—Common everywhere (W.F.).

### IXODIDAE — TICKS

*Argas reflexus* Fabr.—Flamborough, on rock-dove, 1920 (G.B.W.).

*A. vespertilionis* Latr.—Scarborough, larval form on pipistrelle, 1925 (G.B.W.).

*Hyalomma syriacum* Koch—Scarborough, introduced species on imported tortoise (G.B.W.).

*Ixodes caledonicus* Nutt.—Scarborough on jackdaw, upwards of 300 found on upper part of head, caused death of bird (G.B.W.).

*I. hexagonus* Leach—Ruston on hedge-hog (G.B.W.).

*I. ricinus* L.—Littlebeck, 1910 (G.B.W.); Falling Foss, 1936 (H.B.); Scarborough (G.B.W.).

*I. trianguliceps* Bir.—Beckhole, 1936 (H.B.).

*I. uriae* White (= *I. putus* Cambr., O. P.)—Flamborough on migratory sea-birds (W. C. Hewitt, 1902; O. Brabham, 1908; E. G. Wheeler, 1906).

## SARCOPTIDAE — MANGE or SCABIES MITES TARSONEMIDAE

- Ctenoglyphus canestrinii* Arm.—Beckhole, 1936 (H.B.).  
*Oudemansium domesticus* (De G.)—Goathland, 1935 (R.J.F.).  
*Sarcoptes scabiei* L.—Endemic and epidemic.  
*Acarapis woodi* (Rennie) (= *Tarsonemus*)—The cause of Acarine disease among bees. Very common and destructive at one time but more under control now.

## HYDRACHNIDAE — FRESH-WATER MITES

- Acerus latipes* (Muell.)—Cayton Bay pond, 1913 (R.A.T.).  
*Brachypoda versicolor* (Muell.)—Common (C. D. Soar) but no localities given.  
*Hydryphantes ruber* De G.—Cayton Bay pond, abundant, 1913 (R.A.T.).  
*Hygrobatas longipalpis* (Herm.)—Cayton Bay pond, m., 1913 (R.A.T.) ; Oliver's Mount, in horse trough (W.F.).  
*Megaluracarus caudatus* (De G.)—Cayton Bay pond, 1912 (R.A.T.).  
*Micruracarus bifidicodulus* (Piers.)—Cayton Bay pond, f., 1913 (R.A.T.).  
*M. integrator* Muell.—Cayton Bay pond, m., 1913 (R.A.T.).  
*Neumannia spinipes* (Muell.)—Seamer Moor pond, f., 1913 (R.A.T.).  
*N. vernalis* (Muell.)—Seamer Moor pond, m., 1912 (R.A.T.).  
*Piona conglobata* (Koch)—Seamer Moor pond, f., 1913 (R.A.T.).  
*P. nodata* (Muell.)—Cayton Bay pond, abundant, 1912 (R.A.T.).  
*Pionopsis lutescens* (Herm.)—Cayton Bay pond, m., 1912 (R.A.T.).

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# LAND AND FRESH WATER MOLLUSCA

E. Arnold Wallis and Athol J. Wallis

## Class GASTROPODA and Class BIVALVIA

[Note : Mr E. A. Wallis, some time before his sudden death, had been in correspondence with me over the question of nomenclature, and I had suggested using that adopted in the recent Census of the British Non-Marine Mollusca (Journ. Conch. xxiii, 1951, pp. 171-244). Even if one does not agree with all the details, the advantages of using a "standard" printed list are obvious. Mr. Wallis agreed with this, and asked me to recast the list, bringing names and arrangement into conformity with those of the Census. This I have done, but credit for the following list is entirely due to Mr. E. A. Wallis, and after his death Mr. A. J. Wallis, who did all the laborious work of collating records and searching literature. I have added a few notes on species only recently recognised.

—Nora Fisher McMillan.]

The land and fresh water mollusca of the Scarborough district were well worked during the middle of the last century by the great conchologist William Bean and by Leckenby and others. Unfortunately the only records now available of the work of these early pioneers is a list of names in Theakstone's "Guide to Scarborough", 1858. This list includes several species such as *Clausilia biplicata*, *Paludina listeri*, *Cyclas rivicola* and *Helix lapicida*, none of which occurs within many miles of Scarborough, and it is evident that Bean gave the name Scarborough a very wide signification, and his list cannot be relied upon as an indication of what now occurs within the confines of the district.

The present list of the non-marine mollusca is compiled from the work done during the life of the Society by the conchologists who have thoroughly explored the district—W. Gyngell, J. A. Hargreaves, A. Harman, Rev. W. C. Hey, E. A. Wallis and others.

A list of the local non-marine mollusca was compiled by J. A. Hargreaves and published in 1909 (Journ. Conch., xii, pp. 299-308), and this list forms the basis of the present records which contain only a few additions.

The district is rich in the land and fresh water shells. As might be expected the higher parts of the Tabular Hills and the Moorland area are deficient in molluscan life. Here the only land mollusc that is commonly found is the black slug *Arion ater* (L.). The sour, peaty soil with its thick covering of ling and bracken is not suited to the requirements of snails ; but on many of the older walls along the edges of the Moors a few species, such as *Balea perversa* (L.) and *Lauria cylindracea* (da Costa) are to be found, though their distribution is very discontinuous. One of the few localities from which *Zonitoides excavatus* (Alder) has been recorded is the foot of a dry



wall on the top of the hills on the western side of Hackness Valley. This species has not so far been found on the Wolds.

Forge Valley which cuts through the middle oolites, though small in area, is extremely rich in molluscan life and several species are found there which have not been recorded from other parts of the district. The Castle Hill and parts of the cliffs both north and south of the town have a varied molluscan fauna, though northwards this condition gradually changes, and generally speaking the whole district to the north is relatively deficient in snail life. Observation indicates that among the land shells found along the cliffs and near the shore a higher percentage of individual shells have the epidermis either very much eroded or absent than is the case with specimens of the same species found further inland. This is particularly noticable in the larger *Helices*.

Changes in the land mollusca have occurred in recent years. It would seem that the alteration of drainage due to the widening and surfacing of the roads with tar-mac, and the extension of the town in all directions have had an effect on the habitats of many species, none of which are now to be found in places where they were once very abundant. *Arianta arbustorum* (L.) was, thirty years ago, very abundant on the Castle Hill, but has markedly declined in this locality where it is now relatively scarce. *Pomatias elegans* (Muell.), formerly common on both sides of the river in Forge Valley, seems to be disappearing, and no living specimens have been observed for many years. It may be lingering on, though certainly in much reduced numbers.

On the other hand *Trichia striolata* (Pfeiff., C.) (= *Hygromia rufescens* Penn.) which used to be very local though common where it occurred, is now extremely abundant all over the town, and has extended its range into many parts where it was formerly rare and non-existent; and the same is true of *Monacha cantiana* (Mont.).

The most recent addition to the records is *Potamopyrgus* (= *Hydrobia*) *jenkinsi* (Smith). It was first recorded from a watercress bed at Pickering in 1938, at the western side of the district under review. It was not recorded in the immediate neighbourhood of Scarborough until 1944, and in 1946 specimens were found at Folkton, again in watercress beds. It would appear doubtful if any connection can be traced between these two localities, for although the later records are from a habitat nearer the sea, the peculiar features of the district give a westerly drainage flow to the Vale of Pickering. Since 1946 the species has made a remarkable spread, and is now abundant in the R. Derwent and R. Hertford. It is, however, certainly a recent comer into the district.

Our grateful thanks are due to Mrs. N. F. McMillan without whose help this list could not have been produced in such an accurate and complete form. She has willingly spent much time in recasting the list to bring it into line with present day nomenclature, and in reading through the manuscript and proofs.

Thanks are also due to Mr. A. W. Stelfox who kindly determined material collected by A. J. Wallis in 1954.

The classification and nomenclature used are those of the recent Census of the Distribution of British Non-Marine Mollusca (Journ. Conch., xxiii, 1951, pp. 171-244). Varietal names have; in the main, been taken from the list of British Non-Marine Mollusca prepared by B. B. Woodward in 1904.

The following contractions are used :—

H.B.—H. Britten	E.M.M.—Mrs. E. M. Morehouse
T.C.—T. Castle	A.E.P.—A. E. Peck
W.J.C.—W. J. Clarke	W.D.R.—W. D. Roebuck
J.E.C.—J. E. Crowther	A.S.—A. Smith
A.E.E.—A. E. Ellis	A.W.S.—A. W. Stelfox
G.F.—Greevz Fysher	C.F.S.—C. F. Sweetman
W.G.—W. Gyngell	A.J.W.—A. J. Wallis
J.A.H.—J. A. Hargreaves	E.A.W.—E. A. Wallis
A.H.—A. Harman	Nat.—The Naturalist
W.C.H.—Rev. W. C. Hey	Journ. Conch.—The Journal of Conchology

## Class GASTROPODA

### Order ARCHAEOGASTROPODA

#### NERITIDAE

#### THEODOXUS Montfort

*fluviatilis* (L.)—Rare. R. Derwent (J.A.H.) ; Brompton (W.G.).

### Order MESOGASTROPODA

#### VIVIPARIDAE

#### VIVIPARUS Montfort

*viviparus* (L.)—Specimens from York were introduced into the Valley pond in 1909 ; nothing has been seen of them since (E.A.W.).

*fasciatus* (Muell.)—Specimens from near Askern were introduced into a pond in Cayton Bay in 1903 (J.A.H.) ; they were still flourishing in 1952 (E.A.W.). The pond was drained in 1953.

#### VALVATIDAE

#### VALVATA Mueller

*cristata* (Muell.)—Not common and local. R. Derwent at Ayton (J.A.H.) ; ditch near Seamer.

*piscinalis* (Muell.)—Common in R. Derwent ; rare in ditches on the Carrs. Stream near Brompton, 1954 (A.J.W.).

#### POMATIIDAE

#### POMATIAS Studer

*elegans* (Muell.)—Formerly on Oliver's Mount (J.A.H.) ; now only in Forge Valley, but much less common than formerly, last record of living specimens in 1944 (E.M.M., Nat., 1945, p. 30).

## ACMIDAE

## ACME Hartmann

**fusca** (Mont.)—Very local. Not uncommon in Forge Valley ; rare in Yedmandale ; one record Beast Cliff (A. J. Moore, Nat., 1911, p. 108).

## HYDROBIIDAE

## POTAMOPYRGUS Stimpson

**jenkinsi** (Smith)—First recorded in the district at Pickering watercress beds (E.M.M., Nat., 1938, p. 237). In the immediate Scarborough area first records are R. Derwent, West Ayton, 1944 (W. Thurgood, Nat., 1945, p. 29), and in watercress at Folkton, 1946 (Dr. M. Ealing). These records indicate that its first appearance was some time prior to 1944. Since that time the species has spread rapidly and is now abundant in R. Hertford and R. Derwent (E.A.W.).

var. **carinata** Marshall—Occurs commonly with the type (A.J.W.).

## BITHYNIA Leach

**tentaculata** (L.)—Abundant on the Carrs ; formerly in the Mere but now extinct ; extremely abundant in Hackness Lake, being almost the only living mollusc, 1952 (E.A.W.).

**leachii** (Shepp.)—One record, Ellerburn, Thornton-de-Dale, with previous species (G.F., Nat., 1922, p. 296).

## Order BASOMMATOPHORA

## ELLOBIIDAE

## CARYCHIUM Mueller

**minimum** Muell. (agg.)—Common in woods among moss and dead wood. Both segregates into which *Carychium* has now been separated (*C. minimum* s.s. and *C. tridentatum* (Risso)) have been recorded from v.c. 62 (York N.E.) and probably occur in the Scarborough district, but have not yet been definitely identified.

## LEUCOPHYTIA Winckworth

**bidentata** (Mont.)—Said to have lived on the piers many years ago but cannot now be found ; dead shell found on the shore in 1908 had probably drifted down the coast (J.A.H.).

## LYMNÆIDAE

## LYMNÆA Lamarck

**truncatula** (Muell.)—Local. Occurs on and near the coast from Ravenscar to Flamborough in ponds, marshes and streams and occasionally in drinking troughs (J.A.H.) ; is less frequently found inland.

**glabra** (Muell.)—Rare. A decollate form has persisted for many years in a small marsh in Lady Edith's Drive ; the marsh is frequently dry and all the shells are small. Formerly in a pond in Cayton Bay, now extinct. Langdale End (J.A.H.) ; Harwood Dale (E.A.W.) ; Kingthorpe Woods, 1929 (G.F., Nat., 1929, p. 345). A sinistral specimen was found in Lady Edith's Drive (H. Beeston, Journ. Conch., xii, 1908, p. 191).

- palustris** (Muell.)—Very common and widely distributed.  
 var. **elongata** Moq.-Tand.—Seamer Carrs (J.A.H.).  
 var. **conica** Jeffr.—Seamer Carrs (J.A.H.).  
 var. **roseolabiata** Jeffr.—Occurs commonly with type (J.A.H.).  
**stagnalis** (L.)—Not common. Formerly in the Mere ; occurs in Cayton Bay and sparingly on the Carrs.  
 var. **fragilis** L.—Pond on Filey Road, now drained (J.A.H.).  
**auricularia** (L.)—Not common. Local shells are usually small.  
 var. **acuta** (Jeffr.)—Hackness Lake (J.A.H.) ; R. Derwent, Ayton (W.C.H., Nat., 1892, p. 368).  
**peregra** (Muell.)—Very abundant and generally distributed. Variable in form and condition. Large numbers have been introduced into the Mere and R. Derwent to provide food for fish. Sinistral specimens were found in a small pond near Hackness. In 1923 sinistral specimens from a pond near Leeds were introduced into a pond near Cayton Station ; it is not known whether they survived (W.G.).  
 var. **ovata** Drap.—Pickering Beck (W.D.R., Nat., 1886, p. 273).  
 var. **succineiformis** Jeffr.—In a ditch on Thorn Park (E.A.W.).  
**glutinosa** (Muell.)—Specimens in Scarborough Museum are said to have been taken in the Valley ; no trace can now be found.

## PHYSIDAE

**APLEXA** Fleming

- hypnorum** (L.)—Abundant on the Carrs (J.A.H.) ; Throxenby Mere, specimens small in size (E.A.W.).

**PHYSA** Draparnaud

- fontinalis** (L.)—Common on the Carrs.

## PLANORBIDAE

**PLANORBARIUS** Frieriep

- corneus** (L.)—Not common. Introduced into a pond on Seamer Moor and Throxenby Mere, 1906 ; has since increased and is now abundant, especially in the former locality (E.A.W.).

**PLANORBIS** Mueller

- carinatus** (Muell.)—Not common. Formerly abundant in the Mere, now extinct ; sparingly on the Carrs.  
 var. **disciformis** Jeffr.—Formerly in Scarborough Mere (J.A.H.).  
**planorbis** (L.)—Fairly common on the Carrs. Fen Bog, Newton Dale, 1937 (H. Britten).  
**vortex** (L.)—Rare. Scalby Cut (J.A.H.) ; Filey (T.C., Nat., 1914, p. 255) ; Kingthorpe Woods (G.F., Nat., 1929, p. 345).  
**leucostoma** Mill. (= **spirorbis** (L.))—Very abundant. Large numbers of scalariform specimens were taken in Cayton Bay some years ago, but they have now disappeared (J.A.H.).  
**laevis** Ald.—Rare. Occurred only in a pond at Suffield, where it was abundant on **Elodea canadensis**, but a careful search in 1920 resulted in no specimens being found (E.A.W.). No recent records.  
**albus** (Muell.)—Widely distributed but not common.

**crista** (L.)—Widely distributed. Often abundant where found.  
 var. **laevigata** Adami—Scarborough Mere (J.A.H.) ; Dane's Dyke Pond, about one to five of type (J.E.C., Nat., 1906, p. 245).

**contortus** (L.)—Abundant and widely distributed.

#### SEGMENTINA Fleming

**complanata** (L.) (= **Pl. fontanus** Lightf.)—Rare. In ponds between Cayton and Lebberston (J.A.H., E.A.W.) ; Ellerburn, Thornton-le-Dale (G.F., Nat., 1922, p. 296).

#### ANCYLIDAE

#### ACROLOXUS Beck

**lacustris** (L.)—Fairly common and widely distributed.

#### ANCYLUS Mueller

**fluvialilis** (Muell.)—Common in most of the becks where conditions are suitable.

var. **albida** Jeffr.—Scalby Beck (A.H.).

### Order STYLOMMATOPHORA

#### SUCCINEIDAE

#### SUCCINEA Draparnaud

**putris** (L.)—Early records are open to doubt as to identification, but has been recently recorded from Forge Valley, where an unusually dark form was taken (E.M.M., Nat., 1945, p. 30).

**pfeifferi** Rossm.—Probably early records of **S. elegans** refer to this species. Authenticated records are from rocks just above high water mark at Thornwick Bay (A.E.E.) ; pond in Cornelian Bay (E.A.W. *det* A.E.E.) ; Jackson's Bay (E.A.W.).

**elegans** Risso—Records of this species are open to doubt and cannot be included in this list.

#### COCHLICOPIDAE

#### AZECA Fleming

**goodalli** (Fér.)—Rare. Occurs only in Forge Valley.

#### COCHLICOPA Férussac

**lubrica** (Muell.)—Common and generally distributed. The closely allied species **C. minima** (Siem.) is also widely spread in the British Isles and no doubt occurs in the Scarborough area though it has not so far been recorded. Quick (Proc. Malac. Soc., xxx, 1954, pp. 204-213) gives an excellent account—with figs.—of the two species and points out that the correct name for **C. minima** appears to be **lubricella** (Porro).

#### VERTIGINIDAE

#### COLUMELLA Westerlund

**edentula** (Drap.)—Common. Occurs on **Lastraea**, **Iris**, **Carex pendula**, **Spiraea**, etc.

#### VERTIGO Mueller

**pusilla** (Muell.)—Very rare. One locality, a wall near Ayton Castle (W.C.H.), although the last records from there are in 1923 (W.G.).

**antivertigo** (Drap.)—Not common. Formerly abundant in a bog on the Castle Hill, before it was drained (J.A.H.) ; also recorded from Forge Valley and Throxenby Mere (J.A.H.).

**substriata** (Jeffer.)—Not common.

**pygmaea** (Drap.)—In 1896 in great abundance in Forge Valley. Not common now but widely distributed.

#### **PUPILLA** Fleming

**muscorum** (L.)—Fairly common.

#### **LAURIA** Gray

**cylindracea** (da Costa)—Generally distributed and often exceedingly abundant.

var. **edentula** Gray—Suffield (J.A.H.).

**anglica** (Wood)—Not common, but widely distributed. Forge Valley, Scarborough South Cliff, Filey, Speeton (J.A.H.) ; Flamborough Head (W.C.H., Nat., 1902, p. 271) ; Hole of Horcum (C.F.S., Nat., 1938, p. 311). Usual habitat is moss with water slowly trickling through it.

### VALLONIIDAE

#### **ACANTHINULA** Beck

**aculeata** (Muell.)—Not common but widely distributed.

**lamellata** (Jeffer.)—Not common and sparingly distributed. Yedman-dale, Forge Valley, Hayburn Wyke. Usually on dead holly and beech leaves.

#### **VALLONIA** Risso

**costata** (Muell.)—Widely distributed. More common at foot of Wolds than **V. pulchella** (A.H.).

**pulchella** (Muell.)—Fairly common and widely distributed.

**exentrica** Sterki—Rare. Ayton Road (J.A.H.).

### ENIDAE

#### **ENA** Turton

**obscura** (Muell.)—Fairly common and widely distributed.

### CLAUSILIIDAE

#### **MARPESSA** Gray

**laminata** (Mont.)—Fairly common and widely distributed.

#### **CLAUSILIA** Draparnaud

**bidentata** (Stroem)—Common and generally distributed.

#### **BALEA** Gray

**perversa** (L.)—Widely distributed ; locally abundant.

### FERUSSACIIDAE

#### **CECILIOIDES** Férussac

**acicula** (Muell.)—Local and not common. Castle Hill, Irton, Cayton Bay, Folkton.

### TESTACELLIDAE

#### **TESTACELLA** Draparnaud

**maugei** Fér.—Rare. In a garden on South Cliff, 1900, probably introduced with plants (J.A.H.).



**haliotidea** Drap.—Rare. All records are from the South Cliff, Scarborough, the most recent being one in Holbeck Gardens, -/3/52 (E.A.W. *det.* A.S.).

**scutulum** Sow.—Formerly very abundant in Walshaw's Nursery Gardens where it was known for fifty years. Has been recorded from other parts of the town, and at Scalby.

## HELICIDAE

### HELICOGONA Férussac

**lapicida** (L.)—Specimens in the Scarborough Museum are marked 'Scarborough', but none have been found within the district and the exact locality where these were taken is not known. A few specimens were found at Appleton-le-Moors, six miles outside the district, in August, 1947 (E.A.W.).

### ARIANTA Turton

**arbustorum** (L.)—Generally distributed and common. Formerly abundant on the Castle Hill, but has markedly declined in recent years.

var. **alpestris** Zieg.—Castle Hill (J.A.H.).

var. **fusca** Fér.—Castle Hill (J.A.H.).

var. **fuscescens** Dum. & Mort.—Rare. Castle Hill (J.A.H.); Scalby Road (A.H.); Farwath Bridge, Newton Dale (W.D.R., Nat., 1886, p. 273).

var. **cincta** Tayl.—Cliffs north and south of Scarborough (J.A.H.); Fyling Hall (G.F., Nat., 1924, p. 273).

var. **flavescens** Moq.-Tand.—Castle Hill, Scalby Road and Spa Gardens (J.A.H.).

### THEBA Risso

**pisana** (Muell.)—In 1916 living specimens were turned down near Scalby Mills; nothing has been seen of them since (J.A.H.).

### HELIX Linnaeus

**hortensis** (Muell.)—Generally distributed. More common than *H. nemoralis* except on the cliffs and has disappeared from many roadside localities where formerly abundant.

var. **roseolabiata** Tayl.—Scarborough (J.A.H.); Bempton Cliffs (J.E.C., Nat., 1906, p. 245).

var. **fuscolabiata** Von Mart.—Fairly common.

var. **albina** Moq.-Tand.—Rare. Castle Hill.

var. **lutea** Moq.-Tand.—Common.

var. **olivacea** Tayl.—Fairly common and widely distributed.

var. **arenicola** MacGill.—Ruston, Cayton Bay, Castle Hill, Lebberston (E.A.W.).

var. **citrinazonata** Tayl.—Scarborough, 1948 and 1950 (E.A.W.).

var. **quinquevittata** Moq.-Tand.—Pickering (G. F., Nat., 1929, p. 345).

**nemoralis** L.—Well distributed throughout the district, but generally more abundant on the cliffs than inland. Now rare or absent in many roadside localities where formerly abundant. Out of 70



specimens taken from a chalk-pit at Binnington, five weighed .02 oz. and one .12 oz., or six times the weight of the lightest (W.G.).

var. *compressa* Terv.—Ganton (W.G.).

var. *ponderosa* Malm.—Binnington (W.G.).

var. *albolabiata* Von Mart.—Binnington, Flixton.

var. *rubella* Moq.-Tand.—Filey (T.C., Nat., 1914, p. 255).

var. *libellula* Risso—Fairly common.

var. *olivacea* Risso—Pickering watercress beds (E.M.M., Nat., 1938, p. 237).

var. *roseozonata* Cock.—Rare. Castle Hill, Cayton Bay, Allerston (W.G.).

var. *hyalozonata* Tayl.—Rare. Castle Hill, Folkton (W.G.).

var. *citrinozonata* Cock.—Rare. Records from Castle Hill only (E.A.W., E.M.M.).

var. *undulata* Gent.—Fairly common but very local.

var. *carnea* Baud.—Pickering watercress beds (E.M.M., Nat., 1938, p. 237).

var. *quinquefasciata* Moq.-Tand.—Pickering and Scarborough Race Course (G.F., Nat., 1929, p. 345-6).

*aspersa* (Muell.)—Abundant in many localities, and generally distributed. This shell is sometimes gathered by fishermen for bait (J.A.H.).

var. *conoidea* Pic.—Castle Hill (J.A.H.).

var. *tenuior* Shuttlew.—Scarborough (J.A.H.).

var. *nigrescens* Moq.-Tand.—Castle Hill (J.A.H.).

var. *undulata* Moq.-Tand.—Castle Hill (J.A.H.).

var. *zonata* Moq.-Tand.—Castle Hill (J.A.H.).

var. *exalbida* Menke—Peasholm (A.H.) ; Castle Hill ; Ayton Road, locality now destroyed.

var. *lutescens* Tayl.—Colony found on roadside near Hutton Buscel in 1909 (W.G.). Specimens still present in 1948 (E.A.W.).

*pomatia* L.—In 1868 an attempt was made to introduce this species into Forge Valley. No living specimens have been found for many years and it is not known how long they persisted. A dead shell was found in 1907 (W.G.).

## HYGROMIA Risso

*subrufescens* (Miller)—Very common in Forge Valley and occurs in several other parts of the district.

var. *vitrea* Fér.—Forge Valley (J.A.H.).

*striolata* (Pfeiff., C.) (= *H. rufescens* Penn.)—Formerly very local but common where it occurred. Now the dominant species in and around the town has extended its range in the surrounding country and is now very abundant and generally distributed.

var. *rubens* Moq.-Tand.—Scalby (J.A.H.) ; Hackness (G.F., Nat., 1925, p. 343).

var. *albocincta* Cock.—Common with type (E.A.W.).

var. *alba* Moq.-Tand.—Suffield, Scarborough (E.A.W.) ; Hackness (G.F., Nat., 1925, p. 343).

*hispid*a (L.)—Common and generally distributed. A sinistral specimen taken in Holbeck Gardens, Scarborough, 1/8/52 (E.A.W., Nat., 1953, p. 26).

var. *hispidosa* Mouss.—Less common than type but generally distributed (J.A.H.).

var. *depilata* Ald.—Forge Valley, Yedmandale, Red Cliff, Castle Hill.

var. *subrufa* Moq.-Tand.—Almost as common as type (J.A.H.).

var. *albida* Jeffr.—Castle Hill, Burniston, Forge Valley (J.A.H.).

### MONACHA Fitzinger

*granulata* (Ald.)—Abundant in Forge Valley ; less common in other places.

*cantiana* (Mont.)—In 1908 J. A. Hargreaves recorded it as common where it occurs, but confined to the south and west of the town, while W. Gyngell considered it the dominant species on the Wolds, except for the northern slopes. In recent years it has made a very marked spread in its range the following records illustrating this spread, the dates referring to the first year in which it was noticed in each locality. 1948, corner of Stepney Drive and Scalby Road, Scarborough ; 1952, fairly common Coldy Hill Lane, Newby ; 1953, near Lindhead, Burniston (E.A.W.). 1948, between Osgodby Hill Top and Cayton and at Crossgates ; 1949, near Seamer Station ; 1952, extremely abundant between Eastfield and Cayton ; 1953, common on the road from Cayton to Folkton (E.A.W.).

var. *albida* Tayl.—Musham Bank (J.A.H.) ; Seamer Mere (E.A.W.) ; Lindhead, Burniston (E.A.W.).

### HELICELLA Férussac

*caperata* (Mont.)—Generally distributed ; variable in colour and markings. A sinistral specimen taken in Ayton Quarry (W.G.).

var. *subscalaris* Jeffr.—Not common. Osgodby (J.A.H.).

var. *bizonalis* Moq.-Tand.—Rare. Forge Valley (J.A.H.).

var. *ornata* Pic.—Occurs with other forms in a few localities.

var. *fulva* Moq.-Tand.—Fairly common.

var. *lutescens* Pasc.—Fairly common. Occurs with type (J.A.H.).

var. *alba* Pic.—Rare. Forge Valley (J.A.H.).

*gigaxi* (Pfeiff., L.)—Rare. Recorded from an old chalk pit at Willerby Wold, 1912 (W.G.) ; Ayton Road, 1914 (J.A.H.).

*virgata* (da Costa)—Extremely abundant and generally distributed. Varies enormously in colour, size and markings. Four sinistral specimens have been taken, the most recent one on Oliver's Mount, Scarborough, 1/9/52 (E.A.W., Nat., 1953, p. 26).

var. *depressa* Requ.—Near Ayton (J.A.H.).

var. *lineata* Olivi—Common.

var. *leucozona* Tayl.—Seamer, Cross Gates Quarry (E.A.W.).

- var. **rufulozonata** Tayl.—Near Seamer (J.A.H.).
- var. **maculata** Moq.-Tand.—Not uncommon.
- var. **radiata** Hid.—Ayton Road (J.A.H.) ; Castle Hill (E.A.W.).
- var. **nigrescens** Grat.—Rare. Forge Valley (J.A.H.) ; Woodland Cemetery, Scarborough, 12/9/52 (E.A.W.) ; a beautiful dark violet form occurs in Cross Gates Quarry near Seamer (E.A.W.).
- var. **lutescens** Moq.-Tand.—Very common.
- var. **subalbida** Poir.—Common.
- var. **albicans** Grat.—Common.
- var. **hyalozona** Tayl.—Rare. Occurs in widely separated places associated with other forms. Specimens in which the banding is only partially transparent from Castle Hill, 1949 (E.A.W.).
- itala** (L.)—Widely distributed ; abundant where it occurs.
- var. **leucozona** Moq.-Tand.—Rare. Castle Hill (J.A.H.).
- var. **hyalozonata** Cock.—Rare. Castle Hill (J.A.H.).
- var. **alba** Charp.—Rare. Castle Hill (J.A.H.).

## ENDODONTIDAE

**PUNCTUM** Morse

- pygmaeum** (Drap.)—Widely distributed and at times abundant.

**DISCUS** Fitzinger

- rotundatus** (Muell.)—Extremely abundant all over the district.
- var. **turtoni** Flem.—Forge Valley (J.A.H.).
- var. **albus** Moq.-Tand.—Fairly common and widely distributed.

## ARIONIDAE

**ARION** Férussac

- intermedius** Norm.—Not common. Harwood Dale, Seamer Moor, Hayburn Wyke (J.A.H.) ; Filey (J.E.C., Nat., 1903, p. 245).
- circumscriptus** Johnst.—Local, but common where it occurs. Majority of records are from the coastal regions of the district.
- hortensis** Fér.—Very abundant.
- var. **nigra** Moq.-Tand.—Scarborough Spa Gardens (E.M.M., Nat., 1943, p. 121).
- subfuscus** (Drap.)—Not common. Hayburn Wyke, 1894 (W.D.R.) ; Filey, 1903 (J.E.C.) ; Harwood Dale, 1904 (Nat., 1904, p. 182) ; Robin Hood's Bay, 1933 (E.M.M.).
- ater** (L.)—Abundant throughout the district and occurs in the moorland areas where it is the only mollusc. Variable.
- var. **rufa** L.—Langdale End (J.A.H.).
- var. **brunnea** Roeb.—Scarborough, 1913 (W.J.C.) ; Hutton Buscel, 1914 (W.G.) ; Pickering, 1929 (G.F.) ; Scarborough (E.M.M., Nat., 1943, p. 121).
- var. **plumbea** Roeb.—Newtondale (W.D.R., Nat., 1886, p. 273).
- var. **bicolor** Roeb.—Scarborough (E.M.M., Nat., 1943, p. 121).
- var. **alba** L.—Hutton Buscel, 1914 (W.G.) ; Hackness, 1921 (A.E.P.).
- var. **aterrima** Tayl.—Scarborough, Forge Valley (E.M.M., Nat., 1943, p. 121).

- var. **castanea** Dum. & Mort.—Ramsdale Woods, 1888 (W.D.R.) ; Hole of Horcum, 1937 (H.B.).
- var. **albolateralis** Roeb.—Bempton and Flamborough, found sparingly (J.E.C., Nat., 1906, p. 245).
- var. **nigrescens** Raz.—Flamborough, 1 specimen (W.D.R., Nat., 1906, p. 245).
- var. **succinea** Muell.—Newtondale (W.D.R., Nat., 1886, p. 273).

All the above records refer to the aggregate only. No specimens of **A. rufus** (L.) have yet been determined, as it is only separable from **A. ater** (s.s.) by anatomy and the only specimen so far authenticated proved to be **A. ater** (L.) var. **castanea** Dum. & Mort. taken in Raincliffe Woods, 1954 (Dr. H. E. Quick *in litt.*).

## ZONITIDAE

### EUCONULUS Reinhardt

**fulvus** (Muell.)—Common and widely distributed.

var. **alderi** Gray—Raincliffe Woods, Forge Valley (J.A.H.).

### VITREA Fitzinger

**crystallina** (Muell.)—Common

### OXYCHILUS Fitzinger

**drapernaldi** (Beck)—Not common. Probably introduced with plants as most of the records are from public gardens (E.A.W.).

**cellarius** (Muell.)—Common and generally distributed.

var. **albina** Moq.-Tand.—One specimen Forge Valley (W.G.).

**alliarius** (Miller)—Common and generally distributed.

var. **viridula** Jeffr.—Fairly common, Forge Valley.

**helveticus** (Blum)—Not common. May have been introduced with plants (E.M.M., Nat., 1943, p. 121)

### RETINELLA Fischer

**radiatula** (Ald.)—Rare. Sparingly distributed.

var. **viridescenti-alba** Jeffr.—Hayburn Wyke, 1901 (J.A.H.).

**pura** (Ald.)—Common.

var. **nitidosa** Gray—Forge Valley, Suffield (J.A.H.) ; Raincliffe Woods (E.A.W.).

var. **margaritacea** Jeffr.—Pickering Castle (W.D.R., Nat., 1886,

**nitidula** (Drap.)—Very common. p. 273).

var. **nitens** Mich.—Forge Valley (J.A.H.).

### ZONITOIDES Lehmann

**excavatus** (Ald.)—Rare. Occurs in a few widely separated localities, e.g. Hayburn Wyke (J.A.H.) ; Spikers Hill, Forge Valley (E.A.W.) ; Hole of Horcum, 4/4/38 (C.F.S., Nat., 1938, p. 311). Has not been recorded from the Wolds, as this is the only British molluscan calcifuge (Boycott).

**nitidus** (Muell.)—Not common. Formerly in a bog on Castle Hill, but now probably extinct (J.A.H.) ; dry ditch at Folkton, 1918 (W.G.) ; Hole of Horcum, 1938 (C.F.S.) ; Raincliffe Woods, 1943 (E.M.M.).

## VITRINIDAE

## VITRINA Drapernaud

**pellucida** (Muell.)—Abundant and generally distributed.

## LIMACIDAE

## MILAX Gray

**gagates** (Drap.)—One record, a specimen in Bempton Village (J.E.C., Nat., 1906, p. 245).

**sowerbyi** (Fér.)—Common.

var. **nigrescens** Roeb.—Castle Hill, 1912 (J.A.H.).

## LIMAX Linnaeus

**maximus** L.—Common and widely distributed.

var. **ferrussaci** Moq.-Tand.—Scarborough (J.A.H.).

var. **cellaria** D'Arg.—Newtondale (W.D.R., Nat., 1886, p. 273).

var. **obscura** Moq.-Tand.—Oliver's Mount (J.A.H.).

**cinereoniger** Wolf.—Rare. Forge Valley, Harwood Dale, Hayburn Wyke (J.A.H.) ; Kingthorpe Woods, 1929 (W.G.).

**flavus** L.—Common. Rather sporadic in its appearance.

var. **virescens** Moq.-Tand.—Thornton-le-Dale (G.F., Nat., 1922, p. 296).

**marginatus** Muell.—Common and generally distributed.

var. **nemorosa** Baud.—Beast Cliff (W.D.R., Nat., 1891, p. 289).

## AGRIOLIMAX Moersch

**reticulatus** (Muell.) (= **A. agrestis** of British authors before 1941)—Very abundant and generally distributed.

var. **sylvatica** Moq.-Tand.—Newtondale (W.D.R., Nat., 1886, p. 273).

var. **albida** Pic.—Newtondale (W.D.R., Nat., 1886, p. 273).

var. **reticulata** Moq.-Tand.—Spa Gardens (E.M.M., Nat., 1943, p. 121) ; Castle Hill (E.A.W.).

var. **rufescens** Less. & Poll.—Scarborough Spa Gardens (E.M.M., Nat., 1943, p. 121).

var. **pallida** Schrenk—Scarborough Spa Gardens (E.M.M., Nat., 1943, p. 121).

The true **A. agrestis** (L.) has not been recorded from the Scarborough area.

**laevis** (Muell.)—Common. Well distributed in damp places.

## Class BIVALVIA

## Order EULAMELLIBRANCHIATA

## UNIONIDAE

## UNIO Philipsson

**pictorum** (L.)—Rare. R. Hertford, the shells are small and often encrusted with algae, occurs in proportion of 10% **Unio** to 90% **Anodonta** (W.G.).

**tumidus** Phil.—The only evidence of the occurrence of this species in the district is a few dead shells found on the site of the old monastery at Seamer. The molluscs had been dead for many years (E.A.W.).

#### ANODONTA Lamarck

**cygnea** (L.)—Formerly in the Mere where the shells were clean and finely coloured, one specimen measured  $6\frac{5}{8}$  ins. Also in the Valley pond, where the shells were dark and tumid, but in 1927 only dead shells could be found there. In 1898 a remarkably deformed specimen was taken in the Valley pond (E.A.W., Journ. Conch. xiii, 1910, pp. 97-8), and curiously distorted shells have been found in a pond at Langdale End (E.A.W.). Occurs in R. Hertford, Scalby Cut and Peasholm Lake.

var. **arenaria** Schrot.—R. Hertford (J.A.H.).

**anatina** (L.)—Occurs in Scalby Cut, R. Hertford and Burniston Beck.

#### SPHAERIIDAE

##### SPHAERIUM Scopoli

**corneum** (L.)—Abundant on the Carrs. Formerly in the Mere and nearby ditches. Also recorded from Kingthorpe ponds (G.F., Nat., 1929, p. 345). Hertford River, 1954 (A.J.W.).

**transversum** (Say)—In 1908 12 young specimens were introduced into a pond in Burniston Road, and 23 into a pond opposite Burniston school, but both ponds have long since been drained and built over (E.A.W.).

**lacustre** (Muell.)—Not common but well distributed.

##### PISIDIUM Pfeiffer, C.

Most of the records for this genus are old and the specimens not now available for re-examination. Revision of the genus has made such records unreliable and it seems desirable to omit all but the following which have been verified by D. K. Kevan of Edinburgh and A. E. Ellis of Epzom in 1943, from the collection of A. Smith.

**amnicum** (Muell.)—Abundant and widely distributed.

**cinerum** Ald. (= **casertanum** (Poli))—Scarborough (W.G.); pond near Silpho and Ruston stream, 1954 (A.J.W. det. A.W.S.).

**personatum** Malm.—Throxenby Mere, 1930, Burniston Road, 1937 (A.S.).

**obtusale** (Lam.)—Cayton Bay, 1920, Lady Edith's Drive (A.S.); Hackness, ditch near Sherburn, 1954 (A.J.W. det. A.W.S.).

**milium** Held—Cayton Bay, 1920 (A.S.).

**subtruncatum** Malm.—Throxenby Mere, 1920 (A.S.); ditch near Sherburn, 1954 (A.J.W. det. A.W.S.).

**henslowanum** (Shepp.)—Scarborough (A.S.).

**hibernicum** (West.)—Scarborough (A.S.).

**nitidum** Jenyns—Stream near Brompton, 1954 (A.J.W. det. A.W.S.).

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# MARINE FISHES

Professor E. A. Spaul

## Introduction

Fishing has been a prominent feature of life on the Yorkshire coast for so long that it is not surprising to find a published list of Fishes dating as far back as the early part of the last century and even earlier records. The extent of the coastline and the catches of local fishing fleets have provided opportunities for a succession of naturalists over the years to gather much information upon the variety and abundance of the fish to be found. Its completeness is due in great part to the enthusiasm and persistent interest of that distinguished and experienced naturalist the late W. J. Clarke, who was the Scarborough Field Naturalists' Society recorder of fishes for so many years. Apart from his own numerous observations he collected all previous reliable records and compiled the "List of Yorkshire Marine Fishes" published in *The Naturalist* 1944, with many valuable notes upon their abundance, time of appearance and distribution. His work is essentially the basis of the present list in which the fish are classified according to the British Museum List of British Vertebrates, 1935. Reference has been made also to the Fauna Lists of Plymouth and the Isle of Man, Travis-Jenkins' "The Fishes of the British Isles", and other publications. In the final revision of the list the author had the benefit of the advice of Dr. Ethelwyn Trewavas and Mr. D. W. Tucker of the British Museum. The records, with often only general or approximate locations given, cover a very wide area with no well-defined limits from the coast seawards or along the coast as in the case of sections dealing with the land fauna and flora. The greater freedom of movement and uniformity of the medium make a rigid definition of boundaries impossible and undesirable for an appreciation of the real character of the fish population with its variations and changes. Further, as many of these records are the result of landings made at Scarborough, much valuable and important information would be lost if their acceptance was determined by the relation of their location to a prescribed area.

The list is of great interest and value not only for its length and the rare specimens included but also for its indication of the fluctuations in the fish population with the seasons and the changes observable over a period of years. Some species are inshore, others deep sea in habit, many more inshore only during the spring and summer for spawning or for food, coming shorewards either individually or in small groups or shoals. The seasonal preference of some is the result of a migration from a distance beyond this region. Many of these migrations, like the shoals appearing in the shallow waters during the warmer months, have an established regularity and are characteristic of this coast, but some are rare and accidental in their occurrence, a few having wandered far from their usual habitats. Among the rarer species, some have not been

recorded again since the latter part of last century; others, however, are relatively recent records and there are those occasional visitors with long and variable intervals between their appearances. It would seem that most fish have maintained their numbers, but some reported as abundant in the early records are now rare, whilst others, like the Tunny, hardly seen apparently in the old days, are now common during part of the year at least. These variations in the appearance and abundance of different species over a period of years suggest the possibility of changing conditions (climatic, fluctuations in the seasonal range of salinity, temperature, etc.), even though recording may have improved, but whether changes in the great expanse of the sea or local factors are responsible cannot be decided in the absence of further information. Nevertheless, the value and importance of continuous records such as these cannot be over-emphasised, since they can be usefully correlated with more specific investigations and at the same time provide evidence relevant to many other problems. In some cases the cause is known. Pollution on the shore or from rivers has reduced the numbers of salmon and possibly affected some inshore fish, and overfishing has produced a decline in size and quantity of some species landed by trawlers in recent times.

### Class MARSIPOBRANCHII

#### Order HYPEROARTIA

##### PETROMYZONIDAE

#### PETROMYZON Linnaeus

*marinus* L.—SEA LAMPREY—not common, attacks tunny.

#### LAMPETRA Gray

*fluviatilis* (L.)—LAMPERN, RIVER LAMPREY—enters Scalby Beck for spawning, seen in Derwent and Esk, but less commonly in sea.

#### Order HYPEROTRETA

##### MYXINIDAE

#### MYXINE Linnaeus

*glutinosa* L.—HAGFISH or BORER—in deep water, not common, found inside cod and ling, occasionally washed ashore after a storm (emaciated victims called “slinks”).

### Class SELACHII

#### Sub-Class EUSELACHII

#### Order PLEUROTREMATA

##### HEXANCHIDAE

#### HEXANCHUS Rafinesque

*griseus* (Bonn.)—SIX-GILLED SHARK—two brought in from Icelandic waters (1938) but there are no Yorkshire records although it occasionally strays into North Sea.

## LAMNIDAE

**LAMNA** Cuvier

**cornubica** (Gmel.)—PORBEAGLE, called "SKATE SCAUPER"—most abundant of the larger sharks, off Yorkshire coast especially in summer.

**CETORHINUS** Blainville

**maximus** (Gunn.)—BASKING SHARK—not common, only small specimens seen.

**ALOPIAS** Rafinesque

**vulpes** (Gmel.)—THRESHER or FOX SHARK—rare, very few records.

## SCYLIORHINIDAE

**SCYLIORHINUS** Blainville

**stellaris** (L.)—LARGE or GREATER-SPOTTED DOGFISH, NURSEHOUND—scarce.

**canicula** (L.)—LESSER SPOTTED DOGFISH, ROUGH HOUND—not common and irregular in appearance.

## CARCHARINIDAE

**CARCHARINUS** Blainville

**glaucus** (L.)—BLUE SHARK—caught occasionally off coast; one stranded on rocks, Filey Brigg, Dec., 1925.

**GALEORHINUS** Blainville

**galeus** (L.)—TOPE, known as "SWEET WILLIAM"—fairly common in deep water off Scarborough during the summer.

**MUSTELUS** Cuvier

**mustelus** (L.)—SMOOTH HOUND—said to be common in Bridlington Bay and off Scarborough years ago, but not recorded for some 60 years.

## SQUALIDAE

**ECHINORHINUS** Blainville

**brucus** (Bonn.)—SPINOUS or BRAMBLE SHARK—accidental and rare visitor.

**SQUALUS** Linnaeus

**acanthias** (L.)—PIKED DOGFISH, SPUR DOG—a small shark abundant in summer and caught in trawl, herring nets and on lines; when skinned sold as "Deep Sea Gurnards"; can inflict poisonous wound with spines in front of dorsal fins.

**SOMNIOSUS** Le Sueur

**microcephalus** (Schneid.)—GREENLAND or SLEEPER SHARK—accidental and rare visitor.

## SQUATINIDAE

**SQUATINA** Duméril

**squatina** (L.)—MONK, ANGEL or FIDDLE FISH—not common, occasionally in trawl nets.

Order **HYPOTREMATA**

## TORPEDINIDAE

**TORPEDO** Houttuyn

**marmorata** Risso—MARBLED ELECTRIC RAY—accidental and rare occurrence (only one record).

**nobiliana** Bon.—COMMON ELECTRIC RAY—accidental and rare occurrence.

## RAJIDAE

**RAJA** Linnaeus

**montagui** Fowl.—SPOTTED RAY, HOMELYN RAY—fairly common all the year.

**clavata** L.—THORNBACK RAY—abundant in deep water throughout the year. A white variety caught 8 miles off Scarborough, Sept., 1929, and a hermaphrodite (male organs on right, female on left), Dec., 1930.

**radiata** Don.—STARRY RAY, locally "JENNY HANOVER"—formerly rare, now abundant throughout the year.

**maevus** Muell. & Henle—CUCKOO RAY, locally "BUTTERFLY"—resident but not abundant; an almost completely white variety (male) was caught near Scarborough, June, 1930.

**fullonica** L.—SHAGREEN RAY, FULLER'S RAY, locally "WHITEHOUSE"—resident, not common.

**batis** L.—SKATE, FLAPPER SKATE, locally "BLUE SKATE"—resident and common in deep water.

**oxyrhynchus** L.—LONG-NOSED SKATE, locally "FAIR-WIND FISH"—resident, not common.

## TRYGONIDAE

**TRYGON** Cuvier

**pastinaca** (L.)—STING RAY—occasional visitor but not common; an unusual colour variety was caught 18 miles off Scarborough, 1930 (almost black above, bright red with black margin beneath).

## MYLIOBATIDAE

**MYLIOBATIS** Duméril

**aquila** (L.)—EAGLE RAY—one record only, the first British record.

Sub-Class **HOLOCEPHALI**

## CHIMAERIDAE

**CHIMAERA** Linnaeus

**monstrosa** L.—CHIMAERA, RABBIT-FISH—specimen exhibited in Scarborough, 1935, but doubtful if caught in North Sea. No other records.

Class **PISCES**Sub-Class **PALAEOPTERYGII**Order **CHONDROSTEI**

## ACIPENSERIDAE

**ACIPENSER** Linnaeus

**sturio** L.—STURGEON—a few, mostly small, taken every year in trawl nets.

## Sub-Class NEOPTERYGII

## Order ISOSPONDYLII

## CLUPEIDAE

## CLUPEA Linnaeus

**harengus** L.—HERRING—very abundant in summer, less so in winter.

**sprattus** L.—SPRAT—in great shoals inshore in summer; shoals mixed with sand eels are known locally as "Sile".

## ALOSA Cuvier

**alosa** (L.)—ALLIS SHAD—not uncommon, brought in by both trawl and herring boats.

**fallax** (Lac.)—TWAITE SHAD—frequent appearance but not common (both shads are given locally the name "King Herring").

## SARDINA Antipa

**pilchardus** (Walb.)—PILCHARD, SARDINE—Casual visitor in summer.

## GONOSTOMATIDAE

## MAUROLICUS Cocco

**muelleri** (Gmel.)—SHEPPY ARGENTINE, PEARLSIDE—this little phosphorescent fish is washed ashore at Scarborough on rare occasions.

## SALMONIDAE

## SALMO Linnaeus

**salar** L.—SALMON—moves along coast in numbers during summer.

**trutta** L.—SEA-TROUT or BROWN TROUT—large numbers around coast in summer, netted in shallow water off Scarborough.

## ARGENTINIDAE

## ARGENTINA Linnaeus

**sphyraena** L.—HEBRIDAL ARGENTINE—one record, Yarrell, Redcar, Feb., 1852.

**silus** (Asc.)—ARGENTINE—one record, taken off Scarborough, sent to British Museum.

## OSMERIDAE

## OSMERUS Linnaeus

**eperlanus** L.—SMELT—in estuaries of Tees and Humber, not seen off Scarborough.

## Order APODES

## ANGUILLIDAE

## ANGUILLA Shaw

**anguilla** (L.)—COMMON EEL—considerable migration along coast during autumn as they leave fresh water for Atlantic breeding ground.

## CONGRIDAE

## CONGER Cuvier

**conger** (L.)—CONGER—resident but not abundant.

## Order SYNENTOGNATHI

## SCOMBERESOCIDAE

## SCOMBERESOX Lacepède

*saurus* (Walb.)—SAURY—a rare and occasional visitor.

## BELONIDAE

## BELONE Cuvier

*belone* (L.)—GARFISH, locally "MACKEREL GUIDE"—common in inshore waters in summer.

## EXOCETIDAE

## EXOCOETUS Linnaeus

*volitans* L.—FLYING FISH—record by T. Stephenson (Nat., 1894).

## Order SOLENICHTHYES

## SYNGNATHIDAE

## ENTELURUS Duméril

*aequoreus* (L.)—SNAKE PIPEFISH—resident, not common, sometimes cast up after storms.

## NEROPHIS Rafinesque

*ophidion* (L.)—STRAIGHT-NOSED PIPEFISH—among a list of fishes given in 1882 and earlier in 1860; recorded by Stephenson, 1880; no recent record.

*lumbriciformis* (Yarr.)—WORM PIPEFISH—not common, resident in inshore waters, may be found beneath stones at low tide.

## SYNGNATHUS Linnaeus

*acus* L.—GREATER PIPEFISH—resident, fairly common along coast, often found in crab-pots.

## SIPHONOSTOMA Kaup

*typhle* (L.)—BROAD-NOSED PIPEFISH—only record by Woodall but no date or details.

## HIPPOCAMPUS Rafinesque

*hippocampus* (L.)—SEA-HORSE—very rare, records give no dates or details.

## Order ANACANTHINI

## MERLUCCIIDAE

## MERLUCCIUS Rafinesque

*merluccius* (L.)—HAKE—not very common, occasional small specimens brought in by trawlers.

## GADIDAE

## GADUS Linnaeus

*callarias* L.—COD—resident, very abundant both inshore and in deep water; average size of adult decreasing as over-trawling of North Sea does not give fish time for full development; fish weighing 56 lb., measuring 47 ins. in length caught at Scarborough, Mar., 1941, found on examination of vertebrae to be approx. 25 yrs. old; six hermaphrodites have been noted and also some stunted specimens known locally as "Lordfish"; small fish are known as "Codling", medium size "Sprays".

- aeglinus** L.—HADDOCK—resident, still abundant but decreasing owing to over-trawling.
- luscus** L.—BIB, POUT, locally “BLIN”—not common but often in limited numbers in catches from deep and inshore waters (some mistaken for John Dory).
- minutus** L.—POOR COD, POWER—only two records although this smallest member of the cod family is said to be common all round the British Isles (Travis-Jenkins).
- merlangus** L.—WHITING—resident, abundant, coming inshore during warm months in large numbers.
- poutassou** (Risso)—POUTASSOU, COUCH'S WHITING—one record, Whitby, 1896 (Nat., 1896, Stephenson).
- virens** L.—COALFISH, locally: adult “BLACK JACK”; smaller “BILLET”; young “PARRS”—resident, abundant in rocky parts of coast, smaller average size than formerly.
- pollachius** L.—POLLACK, locally “WHITING PULLET”—not usually abundant but sometimes in warm months in considerable shoals coming inshore pursuing sprats and sand eels.
- UROPHYCIS** Gill
- blennoides** (Bruenn.)—GREATER FORK-BEARD—occasionally caught at long intervals.
- MOLVA** Fleming
- molva** (L.)—LING, locally small specimens “GRIZZLES”—common near to the coast, usually in deep water.
- ONOS** Risso
- mustelus** (L.)—FIVE-BEARDED ROCKLING—resident, common in rock pools.
- tricirratus** (Bloch)—THREE-BEARDED ROCKLING—not common, odd specimens occasionally both in deep and in shallow water.
- RANICEPS** Cuvier
- raninus** (L.)—LESSER FORK-BEARD or TADPOLE FISH—occurs sparingly in deep and inshore water and at times cast ashore after rough seas.
- BROSME** Cuvier
- brosme** (Muell.)—TORSK, TUSK—one recorded at Whitby, 1937; also in Ferguson's List of Redcar Fishes (1860).

### Order ALLOTRIOGNATHI

#### LAMPRIDIDAE

#### LAMPRIS Retzius

- guttatus** (Bruenn.)—OPAH, MOON FISH—extremely rare accidental visitor, last record 1869.

#### TRACHYPTERIDAE

#### REGALECUS Bruennich

- glesne** (Asc.)—RIBBON FISH or OAR FISH—deep water species occasionally stranded on British shores, seven records from 1750-1880; one stranded at Flamborough, 1882 or 1883, and one at Robin Hood's Bay, May, 1933.



## Order ZEOMORPHI

## ZEIDAE

## ZEUS Linnaeus

**faber** L.—JOHN DORY—not abundant, sometimes taken in trawl.

## CAPROIDAE

## CAPROS Lacepède

**aper** (L.)—BOAR FISH—very rare accidental visitor, two records 1860 and 1877.

## Order PERCOMORPHI

## SERRANIDAE

## MORONE Mitchill

**labrax** (L.)—BASS—this fine sea perch is not abundant off our coast, but limited numbers are caught at intervals, chiefly in our southern area. The largest caught weighed 18 lb. (Filey Brigg), but it is usually smaller.

## SERRANUS Cuvier

**cabrilla** (L.)—COMBER—occasionally wanders to British waters from the Red Sea, Mediterranean and Eastern Atlantic; one record for the Yorkshire coast in 1938 was the first east of Dover Straits.

## CARANGIDAE

## TRACHURUS Rafinesque

**trachurus** (L.)—SCAD, HORSE MACKEREL—common close inshore during the summer; actually good and palatable food.

## BRAMIDAE

## BRAMA Schneider

**raii** (Bloch)—RAY'S SEA BREAM—irregular visitor, sometimes appears in considerable numbers stranded on beach.

## SCIAENIDAE

## SCIAENA Linnaeus

**aquila** (Lac.)—MEAGRE—an accidental and very rare visitor; two records, Redcar 1847, Flamborough 1873.

## MULLIDAE

## MULLUS Linnaeus

**surmuletus** L.—RED MULLET or SURMULLET—not common, occasionally in trawlers' catches, mostly small and yellow-striped variety.

## SPARIDAE

## DENTEX Cuvier

**dentex** (Gmel.)—DENTEX—only record 1932.

## PAGELLUS Cuvier &amp; Valenciennes

**centrodontus** (de la Roche)—COMMON SEA BREAM or RED BREAM—off-shore in small numbers, odd ones taken throughout the year.

**owenii** Guenth.—AXILLARY BREAM—very rare.

**SPONDYLIOSOMA** Cantor

**cantharus** (Gmel.)—BLACK BREEM or OLD WIFE—rare visitor from Eastern Atlantic and Mediterranean ; five records : Dec., 1910 (2), Jan., 1932, Oct., 1934, Oct., 1936, all near Scarborough.

## CEPOLIDAE

**CEPOLA** Linnaeus

**rubescens** L.—RED BAND-FISH—said to have been cast ashore after storms (J. Cordeaux), no other records.

## LABRIDAE

**LABRUS** Linnaeus

**bergylta** Asc.—BALLAN WRASSE, BERGYLT, locally "SEA PERCH"—resident, common on rocky parts of coast; fishermen carry a triangular group of its throat teeth as amulet for good luck in fishing, called "bollan bones".

**mixtus** L.—CUCKOO or STRIPED WRASSE—one record (J. Cordeaux) for Yorkshire, no date or locality.

**CTENOLABRUS** Cuvier & Valenciennes

**rupesstris** (L.)—GOLD-SINNY—one record of fresh specimen from stomach of Coalfish, apparently just caught, Nov., 1933. Scarborough.

## AMMODYTIDAE

**AMMODYTES** Linnaeus

**lanceolatus** Lesauvage—GREATER SAND-EEL—common inshore in summer pursuing shoals of sprats.

**tobianus** L.—LESSER SAND-EEL—very abundant in coastal waters during summer; mixed shoals of this fish and sprats are called "sile" locally.

## TRACHINIDAE

**TRACHINUS** Linnaeus

**draco** L.—GREATER WEEVER—resident in deep water but not common, occasionally caught in trawl nets.

**vipera** Cuv. & Val.—LESSER WEEVER, locally "STINGING FISH" and "NATTER-PARR"—abundant in sandy bays close inshore, lies concealed in sand and can inflict a severe, painful wound with sharp stout spines of dorsal fin and gill cover which exude a poisonous secretion.

## SCOMBRIDAE

**SCOMBER** Linnaeus

**scombrus** L.—MACKEREL—abundant in warm months, coming inshore in great shoals.

**PNEUMATOPHORUS** Jordan & Gilbert

**colias** (Gmel.)—SPANISH MACKEREL—one record (T. Boynton, Bridlington, 1861).

**THUNNUS** South

**thynnus** (L.)—TUNNY—two records up to 1853. In 1914 annual migration discovered on considerable scale during July, August and September; many caught in recent years mostly off Scarborough, usually between 500 lb. and 700 lb.; heaviest caught 851 lb., smallest 313 lb.

**KATSUWONUS** Kishinouye

**pelamis** (L.)—BONITO or STRIPED-BELLIED TUNNY—two records, 1882 and 1922.

**SARDA** Cuvier

**sarda** (Bloch)—PELAMID or SHORT-FINNED TUNNY—two records, both caught in salmon nets in Filey Bay (Aug., 1933—4 lbs.; June, 1936—8½ lbs.); possibly occurs more frequently but mistaken for large mackerel.

## XIPHIIDAE

**XIPHIAS** Linnaeus

**gladius** L.—SWORDFISH—casual but rare visitor; four records between 1808 and 1874; one stranded (10 ft.) at Redcar, 1914; tunny fishers and Dutch herring fishers claim to have seen many off Scarborough of recent years but none caught.

## GOBIIDAE

**GOBIUS** Linnaeus

**niger** L.—BLACK GOBY—said to be common in rock pools at Redcar and Scarborough before 1881 but no records since then.

**ruthensparri** Euphr.—SPOTTED GOBY—common in rock pools and elsewhere along coast, swimming in small groups near L.W.M.

**minutus** Gmel.—FRECKLED or COMMON GOBY—said to be abundant in Scarborough rock pools (1881); only recent records Filey, 1928, Robin Hood's Bay, 1938.

**jeffreysii** Guenth.—JEFFREY'S GOBY—not abundant, occasionally in trawl net.

## CALLIONYMIDAE

**CALLIONYMUS** Linnaeus

**lyra** L.—DRAGONET, locally "GREEN GUNNARD"—common in deep water, frequently seen in trawlers' catches.

## BLENNIIDAE

**BLENNIUS** Linnaeus

**pholis** L.—SHANNY or SMOOTH BLENNY—very common resident in rock pools, fond of climbing out of water to bask in sunlight but dives into water when disturbed.

**CORYPHOBLENNIUS** Norman

**galerita** (L.)—YARRELL'S or CRESTED BLENNY—very rare resident in rock pools; few records: 1832, in list of Scarborough fish (Murray); Sept., 1835, Redcar; Nov., 1897, Scarborough; Mar., 1920, Filey; Feb., 1934, Burniston Bay.

## PHOLIDAF

**PHOLIS** Scopoli

**gunnellus** (L.)—SPOTTED GUNNEL or BUTTERFISH, locally  
 “ STINGING EEL ”—common rock pool resident.

## ZOARCIDAE

**ZOARCES** Cuvier

**viviparus** (L.)—VIVIPAROUS BLENNY, locally “ TOM POUT ”  
 —common resident in shallow inshore waters ; gives birth to  
 perfectly formed living young.

## ANARHICHADIDAE

**ANARHICHAS** Linnaeus

**lupus** L.—WOLF-FISH, CATFISH, locally “ WOOF ”—common  
 deep water resident frequently taken in trawl.

**latifrons** Steenstr. & Hallgr.—WOLF-FISH—rare, taken near  
 Scarborough in trawl, Aug., 1929, and Aug., 1932.

## STROMATEIDAE

**CENTROLOPHUS** Lacépède

**niger** (Gmel.)—BLACK FISH—very rare accidental visitor, two  
 records : Redcar, Feb., 1852 ; Scarborough, Nov., 1902.

## MUGILIDAE

**MUGIL** Linnaeus

**chelo** Cuv.—THICK-LIPPED GREY MULLET—one record  
 (Newbolt, Whitby).

**capito** Cuv.—THIN-LIPPED GREY MULLET—occasionally in  
 trawl nets, once reported abundant at Spurn ; there is confusion  
 between different species of mullet which are very alike and past  
 records are not reliable.

## ATHERINIDAE

**ATHERINA** Linnaeus

**presbyter** Cuv.—SAND SMELT, ATHERINE—rare visitor.

## Order SCLEROPAREI

## SCORPAENIDAE

**SEBASTES** Cuvier

**marinus** (L.)—BERGYLT, NORWAY HADDOCK, locally  
 “ SOLDIER FISH ” owing to red colour—seldom taken in North  
 Sea as native of Northern waters off Iceland and Norway ; records  
 1770 (Pennant) and Oct., 1933, both off Scarborough.

**viviparus** Kröy.—Smaller and possible local variety of above, single  
 example taken at Scarborough, July, 1927.

## TRIGLIDAE

**TRIGLA** Linnaeus

**lucerna** L.—YELLOW or SAPPHIRINE GURNARD, locally  
 “ TUB ”—largest British gurnard, generally in trawlers' catches  
 but not in great numbers and not usually full size.

**cuculus** L.—RED GURNARD—not common, a few brilliantly coloured fish are obtained each year from deeper water.

**gurnardus** L.—GREY GURNARD—abundant and commonest Yorkshire gurnard coming into shallow water in warm months; a red variety often mistaken for red gurnard.

**lineata** Gmel.—STREAKED GURNARD—rare, two records; Scarborough, Jan., 1897; Robin Hood's Bay, Feb., 1928.

**lyra** L.—PIPER—only records in lists published 1832 and 1881.

### COTTIDAE

#### COTTUS Linnaeus

**scorpius** L.—SHORT-SPINED COTTUS, locally "DEVILLY"—common all along the coast, small ones in rock pools, larger in deeper waters.

**bubalis** Euphr.—LONG-SPINED BULLHEAD or COTTUS, SEA SCORPION—as abundant as short-spined species and has same bad name, both considered poisonous by fishermen.

**quadricornis** L.—FOUR-HORNED SEA BULLHEAD—not common, in deep water, four records: Feb., 1905; Sept., 1926; Jan., 1928; all in trawl off Scarborough; also one from Whitby, June, 1926.

### AGONIDAE

#### AGONUS Schneider

**cataphractus** (L.)—POGGE, ARMED BULLHEAD—not very common, occurs from time to time in trawl nets and one rock pool record years ago.

### CYCLOPTERIDAE

#### CYCLOPTERUS Linnaeus

**lumpus** L.—LUMPSUCKER, locally "STONE CLAGGER"—common, fish coming into tidal waters in spring where males guard mass of salmon-coloured eggs attached to rock between tide marks.

### LIPARIDAE

#### LIPARIS Scopoli

**liparis** (L.)—SEA SNAIL—formerly common at Scarborough and often taken in crab-pots.

**montagui** (Don.)—MONTAGU'S SEA SNAIL—common in rock pools under stones near low tide mark.

### GASTEROSTEIDAE

#### SPINACHIA Cuvier

**spinachia** (L.)—FIFTEEN-SPINED STICKLEBACK—resident, not common.

## Order HETEROSOMATA

### BOTHIDAE

#### SCOPHTHALMUS Rafinesque

**maximus** (L.)—TURBOT—in trawlers' catches in moderate numbers and occasionally caught close inshore, varieties dark on both sides not uncommon, albino caught Scarborough, May, 1939.

**rhombus** (L.)—BRILL—in moderate abundance in deep water, not often caught inshore.

**LEPIDORHOMBUS** Guenther

**whiff-iaonis** (Walb.)—MEGRIM, SAIL-FLUKE—in only moderate numbers.

**PHRYNORHOMBUS** Guenther

**norvegicus** (Guenth.)—NORWEGIAN TOPKNOT—frequently in trawlers' catches.

**regius** (Bonn.)—ECKSTROM'S TOPKNOT—in list of Redcar fishes, 1860.

**ZEUGOPTERUS** Gottsche

**punctatus** (Bloch)—COMMON TOPKNOT, locally "VELVET FISH"—not frequently seen.

PLEURONECTIDAE

**HIPPOGLOSSUS** Cuvier

**hippoglossus** (L.)—HALIBUT—now comparatively rare off coast and of smaller average size than formerly.

**HIPPOGLOSSOIDES** Gottsche

**platessoides** (Fabr.)—LONG ROUGH DAB—frequent in trawls, not uncommon in deep water, but no commercial value owing to small size.

**LIMANDA** Gottsche

**limanda** (L.)—DAB—resident, common in inshore waters especially during warm months.

**PLEURONECTES** Linnaeus

**platessa** L.—PLAICE—resident and abundant, average size smaller than formerly owing to overfishing; largest local record 10½ lb., caught near Scarborough, Mar., 1935, and according to growth rings on vertebrae age 22-23 yrs. Albino and partial whites not uncommon.

**MICROSTOMUS** Gottsche

**kitt** (Walb.)—LEMON SOLE—resident, common in deeper water, largest local record 5¾ lb.

**GLYPTOCEPHALUS** Gottsche

**cynoglossus** (L.)—WITCH, POLE FLOUNDER—often in trawls but not numerous.

**PLATICHTHYS** Girard

**flesus** (L.)—FLOUNDER, locally "HANDBUTT"—resident, common, reversed specimens with eyes on left side not uncommon.

SOLEIDAE

**SOLEA** Quensel

**solea** (L.)—SOLE, DOVER SOLE—common in deeper water and occasionally comes into shallow tidal area; white and orange varieties occur.

**MICROCHIRUS** Bonaparte

**boscanion** (Chab.)—SOLENETTE—record from Whitby, 1881, no details.

## Order PLECTOGNATHI

## MOLIDAE

**MOLA** Cuvier

**mola** (L.)—SUNFISH—occasional visitor during warm months, specimens up to 120 lb. taken at Scarborough.

## Order XENOPTERYGII

## GOBIESOCIDAE

**LEPADOGASTER** Gouan

**gouani** Lacepède—CORNISH SUCKER—not common; in rock pools in Robin Hood's Bay.

## Order PEDICULATI

## LOPHIDAE

**LOPHIUS** Linnaeus

**piscatorius** L.—ANGLER, locally "MONK"—common in deep water, occasionally comes inshore, large specimens 4-5 ft. formerly taken in trawls, but rarely now.

## FRESHWATER FISHES

Professor E. A. Spaul

## INTRODUCTION

There is only one river, the Derwent, of any size in the district, but many streams or becks of varying length and size exist, as well as ditches and ponds and one or two larger stretches of water. These provide a variety of conditions and habitats—gravel and mud bottoms, still, fast- and slow-moving water, open and overgrown stretches—favouring a good selection of fish. The Derwent at its beginning drains with its tributaries the northern part of our area, flows south and east towards the coast but then turns south through the Forge Valley to Ayton and reaches the broad expanse of the valley between Scarborough and Pickering. Here it turns away from the coast and proceeds west, receiving more tributaries, and passes through Malton to join the Ouse later and reach the Humber. The streams in the north flow into the Esk which is beyond our northern boundary, and those in the east make their way to the coast. The Mere just outside Scarborough is a large and ancient stretch of water now some twenty acres in extent, although it has varied greatly in the past, and like the Derwent is noted for its fishing. At various times both the Mere and the Derwent have been restocked with fish (perch, carp, roach, tench, bream, trout and pike) to suit the needs of anglers, and good-sized fish are present in these waters according to weights recorded of specimens of the different species taken. Drought and pollution frequently affect the abundance of the fish.





TROUT (*Salmo trutta* L.) MATING. JANUARY, 1955

Photograph : E. Horsfall Turner



Local angling clubs have provided valuable information to supplement the records of the Scarborough Field Naturalists' Society, collected mainly, as in the case of the Marine Fishes, by the late W. J. Clarke. Reference has been made also to the Victoria History of the County of York. The classification is based on the British Museum list of British Vertebrates, 1935, and revised by Dr. Ethelwyn Trewavas and Mr. W. D. Tucker of the British Museum.

### Class MARSIPOBRANCHII

#### Order HYPEROARTIA

##### PETROMYZONIDAE

#### LAMPETRA Gray

**planeri** (Bloch)—BROOK LAMPREY, PLANER'S LAMPREY—occasionally seen in the Derwent above Ayton, but often abundant in Scalby Beck, especially near its mouth.

### Class PISCES

#### Sub-Class NEOPTERYGII

#### Order ISOSPONDYLI

##### SALMONIDAE

#### SALMO Linnaeus

**salar** L.—SALMON—occasional after a spate in Scalby Beck.

**trutta** L.—BROWN TROUT—numerous in the Derwent, common in Scalby Beck and other streams.

**gairdnerii** (Richardson)—RAINBOW TROUT—have been introduced into the Derwent and the Mere but they disappear by the following season. Some are caught in the lower Derwent later, on their way to the sea.

#### THYMALLUS Cuvier

**thymallus** (L.)—GRAYLING—numerous in the upper Derwent and common in the lower reaches, but numbers appear to be less than twenty years ago; also common in Scalby Beck.

#### Order HAPLOMI

##### ESOCIDAE

#### ESOX Linnaeus

**lucius** L.—PIKE—in the Derwent below Ayton and in the Mere which was stocked in 1921 with 25 18in. fish.

#### Order OSTARIOPHYSI

##### CYPRINIDAE

#### CYPRINUS Linnaeus

**carpio** L.—CARP—not uncommon in the Mere; the largest caught was 8lb.; the stock introduced in 1896 included a variety, the King Carp.

**CARASSIUS** Nilsson

**carassius** (L.)—CRUCIAN CARP—unknown in district until many were discovered in a pond at Kirby Misperton, averaging 8in. in length; introduced in June, 1942, into Scarborough and Throxenby Meres and into a pond at Wrea Head.

**GOBIO** Cuvier

**gobio** (L.)—GUDGEON—common in the Derwent and Scalby Beck, where they reach a large size; many in a pond near Cayton Bay, but small and mostly blind.

**TINCA** Cuvier

**tinca** (L.)—TENCH—introduced into the Mere in 1896 and now fairly common, specimens up to 4lb. taken; also occurs in a brick pond at Rillington.

**PHOXINUS** Agassiz

**phoxinus** (L.)—MINNOW—numerous in the Derwent especially below Ayton; common in the Mere and very abundant in Scalby Beck.

**SQUALIUS** Bonaparte

**cephalus** (L.)—CHUB—common in all streams and the Mere and reach 4lb. A 6lb. specimen caught in the Derwent at Yedingham.

**LEUCISCUS** Cuvier

**leuciscus** (L.)—DACE—numerous and large in the Derwent below Ayton; a specimen weighing 13½oz. caught at Ganton in November, 1934—a local record.

**RUTILUS** Rafinesque

**rutilus** (L.)—ROACH—common in the Derwent and reach large size; specimens taken up to 2lb.; introduced into the Mere years ago and now common; abundant also in the lake at Scampston.

**ABRAMIS** Cuvier

**brama** (L.)—BREAM, CARP BREAM—introduced into the Mere and now fairly common.

**NEMACHEILUS** Van Hasselt

**barbatula** (L.)—LOACH, STONE LOACH—common in Scalby Beck and the Derwent, especially the upper reaches.

**Order APODES****ANGUILLIDAE****ANGUILLA** Shaw

**anguilla** (L.)—EEL, COMMON EEL—common in all streams.

**Order ANACANTHINI****GADIDAE****LOTA** Cuvier

**lota** (L.)—BURBOT, locally BURBOT EELS—rare and local; occurs in the Derwent and Scalby Beck; has been reported in drains, ditches and slow streams.

## Order PERCOMORPHI

## PERCIDAE

**PERCA** Linnaeus

**fluviatilis** L.—PERCH—introduced into the Derwent and the Mere many years ago but found now only in the Mere, where they are common.

**ACERINA** Cuvier

**cernua** (L.)—POPE, RUFFE—not uncommon in the Derwent below Ganton.

## Order SCLEROPAREI

## COTTIDAE

**COTTUS** Linnaeus

**gobio** L.—MILLER'S THUMB, BULL-HEAD—common in Scalby Beck, but in smaller numbers in the Derwent especially above Ayton.

## GASTEROSTEIDAE

**GASTEROSTEUS** Linnaeus

**aculeatus** L.—THREE-SPINED STICKLEBACK, TITTLEBAT—has been reported to be in almost every ditch or pond in the district as well as the Derwent and Scalby Beck but records indicate that its abundance varies.

**PYGOSTEUS** Gill

**pungitius** (L.)—TEN-SPINED STICKLEBACK, TINKER—local in distribution; abundant in ditches in Seamer and Flixton Carrs.

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## REPTILES AND AMPHIBIANS

Elizabeth Rimington.

Of the sixteen species given in the British Museum List, eleven are recorded from our area. The two species of Turtle are perhaps the most interesting and unusual, though both are vagrants and not inhabitants.

The Viper is still fairly common in many parts of the moors, although local in its distribution. It does not as a rule grow to a great size and averages 20-22 ins. (males), and 23-25 ins. (females), though considerably larger ones have been recorded. During November and early December 1954 two pregnant female vipers were brought to Wood End Natural History Museum. In both cases eight young were born alive and lived for a short period in the Vivarium.

In this country the gestation period of this species is from two to three months. Fertilisation does not take place until towards the end of May and the peak period of the birth of young is from August to mid-September.

In North Sweden and Finland, as well as the mountainous regions of Europe, the breeding process is retarded into every second year, due to the shortness of the arctic summer, when the Viper is forced back into hibernation for a further eight or nine months.

It is possible in the two cases mentioned that the pregnancy was accelerated due to the warmth of the Vivarium. In normal cases the birth would not have taken place until the spring of 1955. It could be suggested that this late pregnancy might have been due to late mating, but this is very unlikely. H. Velsoe (Structure and Seasonal Variation of the Male Reproductive Organs of *Vipera Berus*, *Spolia Zool. Mus. Haumensis*, Copenhagen, 1944) has pointed out that during autumn only a small percentage of mature spermatozoa are present in the male. The most reasonable explanation is suggested by Dr. M. Smith (The British Amphibians and Reptiles, 243, 1951), that an unseasonal summer is responsible for the rare occurrences of delayed development.

The Viper is locally known as the "Hag-Worm", and a superstition that it will not die until sunset is common in country districts.

Our commonest reptile is the Viviparous Lizard. It is widely distributed and has been regularly recorded from both the moors and the cliffs. It is locally known as the "Dry-ask," and is considered by some of the older country folk to be more venomous than the Viper. There are no records of either snakes or lizards on the Wolds.

Both the Crested and Smooth Newts are common in many of the ponds and ditches. The Palmate Newt is very local and not common. Newts are locally known as "Wet-asks," and the Crested Newt is also called the "Doctor."

The arrangement and nomenclature used are those contained in the "List of British Vertebrates." (B.M., 1935).

Grateful thanks are due to Mr. G. G. Watson for much of the information concerning the Viper.

### Abbreviations :

D.W.B.—D. W. Bevan ; W.J.C.—W. J. Clarke ; E.F.G.—E. F. Gilmour ; V.C.H.—Victoria County History, York ; B.M.—British Museum of Natural History ; E.A.W.—E. A. Wallis.

Square brackets imply that the record occurred just outside our area.

## REPTILIA

### CARETTA Rafinesque

*caretta* (L.)—Loggerhead Turtle. One taken alive at Scarborough, 1885, now preserved in Wood End Museum (W.J.C., teste B.M.).

### DERMOCHELYS Blainville

*coriacea* (L.)—Luth or Leathery Turtle. Bell, in his "British Reptiles," records one taken at Scarborough in 1748 or 1749. [Bridlington Bay, Oct., 1871, 8-ft. long, 1000-lbs. in weight (V.C.H.)]

### ANGUIS Linnaeus

*fragilis* L.—Slow-Worm. Common in all suitable localities.

var. *colchica* Dem.—Blue-Spotted Slow-Worm. Cloughton, two specimens, 1951. The most northerly record for Britain. Not previously found north of Lat. 51°-30', except for one specimen from Epping and from two Welsh localities (E.F.G.).

### LACERTA Linnaeus

*vivipara* Jacq.—Common or Viviparous Lizard. Common on cliffs and moors.

### NATRIX Laurenti

*natrix natrix* (L.)—Grass Snake. No reliable records in the wild state. Specimens taken on Oliver's Mount were possibly escaped pets from a near-by school.

### VIPERA Laurenti

*berus berus* (L.)—Viper, Adder. Common but local on the moors. A Hackness postman, during his 44 years' service, killed over 500 vipers on his moorland rounds.

## AMPHIBIA

### TRITURUS Rafinesque

*vulgaris vulgaris* (L.)—Smooth Newt. Very common in almost every pond in the district (W.J.C.).

*helveticus helveticus* (Raz.)—Palmate Newt. Uncommon and local ; Throxenby Mere (D.W.B. and W.J.C.) ; Bloody Beck (E.A.W.) ; Cayton Bay, 1951 (E.F.G.).

*palustris palustris* (L.)—Crested Newt. Widely distributed and not uncommon (E.A.W.).

### RANA Linnaeus

*temporaria temporaria* L.—Common Frog. Very common.

### BUFO Laurenti

*bufo bufo* (L.)—Common Toad. Common and widely distributed.

# BIRDS

A. J. Wallis.

During the whole history of the Society, the study of the bird life of the district has been prominent among the activities of many members. The names of W. J. Clarke, C. D. Head, W. Gyngell and T. N. Roberts are outstanding. H. H. Farwig, G. W. Temperley, E. A., and A. T. Wallis as well as many others have made valuable contributions which have helped to make these records more complete. W. J. Clarke, T. N. Roberts and the brothers Wallis were among the early pioneers in the art of bird photography. At the present time the Society is fortunate in having R. M. Garnett resident within the district, and the recorder acknowledges with thanks his valuable help in reading through and criticising these records. Similar thanks are due to R. Chislett, who read through the manuscript also and made helpful comments for the recorder's guidance.

With the variety and range of habitats to be found in the district it is not surprising that the list of records is a long one. Two hundred and seventy-nine different species are named, of which ninety-nine breed regularly. Six have bred in the past, but for various reasons have ceased to do so, and thirteen others have been recorded as breeding at irregular intervals. Thirty-six species are regular winter visitors or passage migrants, and thirty-eight are infrequent in their occurrence yet cannot be classed as vagrants. Over a long period of years seventy-three species have occurred as rare vagrants or accidental visitors. The remaining fourteen are birds of subspecific status, all of which have been conclusively identified.

During the many years, since the formation of the Society, interesting changes in the bird life have taken place. Some species have been lost to the district, or have become scarcer, but on the other hand several new species have appeared.

Probably the most serious loss is the disappearance of the Stone-Curlew which nested annually up to 1937. John Morley, who was keeper to the Earl of Londesborough, remembered it nesting on Seamer Moor in the late 1870's. It nested on the Wolds in small numbers as late as 1874, and the last stronghold of the bird was on the edge of the moors in the Pickering area. Partly owing to the afforestation of that area, but more probably due to the systematic robbery of the eggs by unscrupulous egg-collectors, it is now extinct as a local breeding bird.

The Corn-Crake, formerly common and widely distributed over the greater part of the district during the spring and summer, is now extremely rare, no records of its nesting having been made for many years. Its disappearance locally is but part of a decrease affecting the greater part of our islands, caused mainly by the development of the mowing machine. It would seem probable that the tractor is equally responsible for the very serious decrease in the breeding population of the Lapwing

within the district. The increase in numbers of the Rook may be a subsidiary factor, creating too strong a competition for the available food supply. During 1948 it was possible to travel from Scarborough to Pickering without seeing one pair of nesting Lapwings, where twenty years previously each field had two or more pairs nesting.

Neither the Swallow nor the House-Martin is as common now as formerly. The latter species nested regularly at one time as far down the town as the Old Bar, Scarborough and on other buildings in the main street. A large colony existed on the buildings of the pumping station at Cayton Bay, but was driven away when the gas engine was installed in 1913.

The break-up of the larger estates will, no doubt, account for the decline in the Pheasant population, whilst the general neglect of the moors with the subsequent planting of large areas with trees during the past two decades has driven the Red Grouse away from its old haunts.

Other birds that have become noticeably scarcer during the past sixty years are the Grey Wagtail, Ring-Ouzel, Whinchat, Stonechat, Kingfisher and Long-eared Owl. The Ring-Ouzel is now confined to one or two localities on the moors, and the Whinchat, once a common and regular visitor all round the town, nesting on the cliffs and Oliver's Mount, is rarely seen except in certain parts of the moors and on the Carrs. The decrease of the Stonechat has been even more complete, and very few records have been received for several years. There is no apparent reason for these decreases, as no change in the general habitats of these birds has taken place. The felling of the older woods during the 1914-18 war has made the Long-eared Owl only an occasional breeding species, where once it bred regularly.

To offset these losses in our local birds we can with some satisfaction record marked increases in many species, and the addition of several to the list of nesting birds. Among the most marked of the increases are the following:—Carrion Crow, Magpie, Goldfinch, Pied Flycatcher, Turtle-Dove, Oyster-Catcher, Kittiwake, and Red-legged Partridge.

The increase and spread of the Magpie is very marked. It used to occur only to the north of Scarborough in the cliffs at Ravenscar and Staintondale, and in a few isolated parts of the woodlands. It is now seen regularly within the town boundaries and is common throughout the whole district.

The Goldfinch was apparently a rare species when the Society was founded but is now quite common and nests regularly in the town gardens and surrounding countryside. It was particularly abundant in 1945 and '46, but the severe winter of 1946-47 had a disastrous effect on the bird, and very few were recorded the following summer.

The Pied Flycatcher is not a common bird in the district, being locally distributed in certain wooded areas. It has, however, extended its range as a breeding species during recent years. By the erection of nesting boxes in some of the afforested areas where formerly it was very rare, it has been induced to breed freely.

The spread of the Turtle-Dove is equally interesting. It was first recorded as nesting in the district in 1900, and has since become relatively common in many parts. A pair was found nesting in a garden on the South Cliff, Scarborough, in 1941. It is noticeable that the spread of this species through the district has been steadily from the south to the north, and not only to very local areas as is the case with the previous species. The Turtle-Dove is still rare to the north of Scarborough, yet each year it is recorded from a little further north than previously.

Why the Oyster-Catcher should have become more frequent along the coast is not known. At one time of rare occurrence, small parties may now be seen throughout the greater part of the year. It has not been known to breed, the birds seen during the summer presumably being non-breeding birds.

The Kittiwake, which has increased enormously in numbers at its chief breeding station on the cliffs at Bempton and Speeton, has also extended to one or two places northwards. It began nesting on the Castle Hill, Scarborough, about 1940, and by 1948 the colony had increased to about thirty pairs. This increase, since the bird is no longer persecuted for its feathers, seems hardly surprising, especially as at Bempton the birds are well established on the ledges some three weeks before the arrival of the Guillemots and Razorbills.

The most interesting events in local ornithology that have occurred in recent years are the arrival of those species which have been added to the list of breeding birds. The spectacular spread of the Fulmar Petrel, reaching the cliffs at Bempton in 1919, and gradually forming colonies all along our coastline, and the coming of the Little Owl to the district are two examples. The Nuthatch, Lesser Spotted Woodpecker have been recorded as nesting, though only at irregular intervals. The Reed-Warbler has returned as a regular breeding species after an absence of many years, and the Coot has nested spasmodically in recent years after a long absence.

The Little Owl, first recorded in 1924, has now spread into many parts of the district. It is more common on the Wolds than elsewhere, and there is no doubt that it breeds regularly, though in small numbers. The breeding of the Gannet at Bempton is interesting, but it is doubtful whether the colony will increase much owing to the lack of broad ledges. Before 1919 the Fulmar was known only as an offshore bird, and was rarely seen except by the fishermen, who know it as the "Mollymawk." In 1921, it was reported as having bred at Bempton and small colonies were formed about that time at many places between Flamborough Head and Whitby. It is now a regular visitor to the cliffs from January to the end of summer, and is known to have nested at several of its stations.

Two other birds, both of which have bred in the district, though long before the founding of our Society, may claim a brief note. The Great Bustard was once not uncommon on the Wolds where it nested regularly up to the early years of the last century, when the Enclosure Act was applied and the land was ploughed up. It became extinct as



a Yorkshire bird about 1835, the last known record being a bird at Foxholes. The Raven, also now a rare vagrant, nested on the Castle Hill, Scarborough, up to 1855, and a pair bred in Newton Dale, probably just outside our district, as late as 1875.

Finally, one or two interesting visitors should be mentioned. From the middle of November, 1925, and throughout the winter to the early part of April, 1926, a Red-spotted Bluethroat frequented the garden of the house where Mr. Clarke lived in Oak Road, Scarborough. It became remarkably tame during this time, but disappeared with the coming of spring. What is, however, more remarkable is the fact that this bird came again to the same place on 1st February, 1927, and stayed until 30th April. It is safe to assume that it was the same bird as the 1925-26 one for it would indeed be an extraordinary coincidence if two different birds of this rare species chose the one spot on the East Coast where they would be safest and receive the most cordial welcome in addition to an unlimited supply of specially cooked food.

Until 1946 the claim of the Eastern Rufous Turtle-Dove to be included in the list of British birds rested on a solitary example, a young bird captured near Scarborough on 23rd October, 1889. In 1888 there occurred an irruption of Pallas's Sand-Grouse into the district. This immigration was only a small part of a very large movement of these birds, thousands of them reaching England and Scotland and as far west as Ireland. Quite a number of them appear to have nested in England, and two clutches of eggs were taken near Beverley. In 1899, Mr. Clarke saw a flock of seven and picked up a dead bird in Cayton Bay. Since then the bird has appeared only once in our district, a flock of 30-40 birds being frequently seen on the Wolds between June and October, 1908, by Mr. W. H. St. Quintin.

No really long term observations on the migration of birds through the district have been made, but from what field work has been done it has become apparent that the district has certain peculiarities where migration is concerned. It will be seen that several species of passage migrants which use the "East Coast Route" regularly each year, are recorded only irregularly along our stretch of the coastline. It would seem that the shore between Teesmouth and Filey Brigg offers little in the way of feeding grounds. Owing to this it might be that many migrant birds, particularly waders and geese, take an overland route from Teesmouth to the Humber passing over the western parts of the district. This would explain the fact that at Thornton-le-Dale geese and many species of waders are recorded in larger numbers and much more regularly than along the shore. So far direct observations have not proved this, and it has been pointed out by Mr. R. Chislett that birds which move inland from Teesmouth may pass further west into the Vale of Mowbray, and not make for the Humber estuary. Also migrants that are seen in the Vale of Pickering in autumn may not have been to Teesmouth, or if they have may have travelled down the coast and come inland direct through the gap between the high ground of the moors and the Wolds.

It is also probable that many flocks of waders following the coast from Teesmouth to Flamborough miss the stretch of shore between Whitby and Filey Brigg, passing Scarborough well out to sea. There will also be an immigration direct from Scandinavia, and any birds on a course which brings them towards our stretch of coastline may well make for Flamborough Head as the most visible land fall if they are flying at a good height, striking land at Filey Brigg, especially if the wind is southerly. Low flying birds will approach the coast at almost any point and turn south as they approach land, possibly finding Filey Brigg to be the first suitable stopping place. If these conclusions are correct they would explain in some measure why the only point along our coast where waders are seen in any numbers is Filey Brigg.

It is interesting to note that the winter flocking of gulls that roost on the shore is almost exclusively confined to the small bays where reefs of rock are uncovered very soon after the tide has begun to ebb, though these bays may be deserted in favour of more sheltered places during severe weather. In contrast to the notes on the migrations of waders and geese mentioned above, it has been observed that the flocks of migrating gulls, particularly the Great Black-backed, Common and Black-headed Gulls, follow the coast line very closely.

The systematic order of the records which follow has been taken from Witherby's Handbook of British Birds, Vol. V, 1941. The more recently published classification—Wetmore's Order—and the dropping of the trinomial, have not been adopted because these changes came into use after most of the manuscript had been set up in type, and the cost to the Society in making the necessary alterations would have been more than could be afforded.

Contractions used in the text of the records following :—

P.M.—Passage migrant.

R.—Resident.

S.V.—Summer visitor.

W.V.—Winter visitor.

A.I.B.—A. I. Burnley.

W.J.C.—W. J. Clarke.

W.E.C.—W. E. Collinge.

M.E.—Miss M. Ealing.

R.M.G.—R. M. Garnett.

O.G.—O. Grabham.

W.G.—W. Gyngell.

M.F.M.M.—M. F. M.

Meiklejohn.

J.M.—J. Morley.

T.N.R.—T. N. Roberts.

R.S.—R. Smith.

E.W.W.—E. W. Wade.

M.E.W.—Mrs. M. E. Waites.

A.J.W.—A. J. Wallis.

A.T.W.—A. T. Wallis.

E.A.W.—E. A. Wallis.

E.O.W.—E. O. Wallis.

J.R.W.—J. R. Wilkinson.

Brit. Birds—British Birds Magazine.

Hand. Brit. Birds, 1938—

The Handbook of British Birds, 1938 et seq.

Nat.—The Naturalist.

Nel.—Thomas H. Nelson, The Birds of Yorkshire, 1907.

Scar. Nat. Records—

Records of the Scarborough Field Naturalists' Society.

Yorks. Birds—Ralph Chislett's Yorkshire Birds, 1952.

Zool.—The Zoologist.



## CLASS AVES

## Order PASSERIFORMES

## CORVIDAE

**CORVUS** Linnaeus

**corax corax** L.—RAVEN. Rare vagrant. Nested on the Castle Cliff, Scarborough, up to 1855, and in Newton Dale, near Pickering, about 1875 (Nel., p. 236). Last recorded during 1944 when a pair was seen several times on Seamer Moor during August (W.J.C.) ; and one during October on Silpho Moor (T.N.R.).

**cornix cornix** L.—HOODED CROW. W.V. Fairly common. Chiefly on the coast. Exceptional numbers at Thornton-le-Dale in early March, 1942, when more than 100 roosted on high ground ; believed to be on passage to N.E., but held up by adverse weather (R.M.G.). Instances of pairs staying to breed are recorded at Flamborough in 1858, 1871, 1876 and 1887, and there is also a record of a female mating with a Carrion Crow at Hackness (Nel., p. 246).

**corone corone** L.—CARRION CROW. R. Common. A considerable increase in numbers during recent years.

**frugilegus frugilegus** L.—ROOK. R. Very abundant. Absent from the moors as a breeding species. Hackness Park has several large rookeries, 570 nests being counted in 1947 (A.J.W.).

**monedula spermologus** Vieill.—JACKDAW. R. Abundant.

**PICA** Brisson.

**pica pica** (L.)—MAGPIE. R. Very common. Formerly restricted to the undercliffs at Ravenscar and a few other localities. In recent years has increased and spread throughout the district. Nests freely, using tall hedgerows in the Vale of Pickering. These are being cut down everywhere and different sites will have to be found, which may affect its status (R.M.G.).

**GARRULUS** Brisson

**glandarius** (L.)—JAY. R. Not common. Breeds locally in wooded areas. A flock of up to 20 birds seen in scrub on the edge of the moors, 8 Feb., 1948. It has been suggested that such winter flocks may be Continental birds (M.F.M.M., A.J.W.).

**PYRRHOCORAX** Tunstall

**pyrrhcorax pyrrhcorax** (L.)—CHOUGH. No definite records, but the late Canon Atkinson writing in 1861 states that the Chough " was until lately (1861) known to breed at Flamborough " (Nel., p. 224).

## STURNIDAE

**STURNUS** Linnaeus

**vulgaris vulgaris** L.—STARLING. R. and W.V. Abundant. Recoveries of wintering birds indicate migrations from Russia and Scandinavia, e.g., one ringed Lidsen, Liveland, Russia, June, 1912—recovered Scarborough, 1 Jan., 1914 ; one ringed Thornton-le-Dale, 14 Dec., 1937 (R.M.G.)—recovered Koge, Denmark, 10

June, 1939 ; one ringed Scarborough, 1 Jan., 1951 (A.J.W.)—recovered near Leningrad, Russia, August, 1951 ; one ringed near The Hague, Holland, 29 Sept., 1952—recaught Scarborough, 13 Feb., 1953 (A.J.W.). Winter visitors arrive from mid-September to the end of October, large flocks gathering along the coast before dispersal throughout the district. Departure about the middle of April, usually at night (Nel., p. 217). The size of the flocks wintering in the district has increased considerably in recent years, and flocks from a radius of up to 10 miles gather together each evening to roost. One combined flock, numbering many thousands of birds, used a small conifer plantation at Wykeham as a roost during the winter of 1952-3, and did considerable damage to the trees (A.J.W.).

#### **PASTOR** Temminck

**roseus** (L.)—ROSE-COLOURED STARLING. One record, Scarborough, July, 1863 (A. Roberts, MS., Nel., p. 222).

### ORIOLIDAE

#### **ORIOLUS** Linnaeus

**oriolus oriolus** (L.)—GOLDEN ORIOLE. Rare vagrant. A male, Hackness, 9 July, 1911 (Nat., 1911, p. 330). One seen Suffield, 20 July, 1932 (J.R.W.). A female seen on the cliffs at Robin Hood's Bay, 11 May, 1947 (C. E. A. Burnham).

### FRINGILLIDAE

#### **COCCOTHTRAUSTES** Brisson

**coccothraustes coccothraustes** (L.)—HAWFINCH. R. Uncommon. Breeds regularly in the district in small numbers. Flocks seen in winter (R.M.G.).

#### **CHLORIS** Cuvier

**chloris chloris** (L.)—GREENFINCH. R. and W.V. Common. Decreased in numbers about 1925, but has increased since.

#### **CARDUELIS** Brisson

**carduelis britannica** (Hart.)—BRITISH GOLDFINCH. R. Variable. Rare in and about 1897, but has increased steadily from 1920's onwards, being very common during 1946. Was almost exterminated during severe winter, 1946-47. Had more than recovered in numbers by 1953.

**spinus** (L.)—SISKIN. P.M. and W.V. Rare. Small numbers recorded every year, but is probably frequently overlooked.

**flammea flammea** (L.)—MEALY REDPOLL. W.V. Irregular. Recorded Flamborough, Jan., 1907 (T. H. Nelson ; Yorks. Birds, p. 48), Scarborough Mere, Nov., 1921 (T.N.R.), and at Thornton-le-Dale, Nov., 1945 (R.M.G.). Doubtless often overlooked.

**flammea cabaret** (Muell., P.L.S.)—LESSER REDPOLL. R. and W.V. Fairly common. Has shown a marked increase during recent years.

**hornemmanni exilipes** (Coues)—COUES'S REDPOLL. Rare vagrant. Recorded at Scarborough, 18 Dec., 1925 (W.J.C., Nat., 1926, p. 171).

**flaviostris pipilans** (Lath.)—BRITISH TWITE. R. Rare. Four or five records. A nest was found at Thornton-le-Dale, 5 June, 1922 (A.I.B.).

**cannabina cannabina** (L.)—LINNET. R. Common. Has increased generally in recent years, very large flocks occurring along the coast and in the Vale of Pickering during the winter.

#### **PYRRHULA** Brisson

**pyrrhula pyrrhula** (L.)—NORTHERN BULLFINCH. Rare vagrant. One obtained at Hunmanby, Nov., 1894 (Nel., p. 195).

**pyrrhula nesa** Math. & Ir.—BRITISH BULLFINCH. R. Not common. Has increased in recent years, breeding regularly throughout the district in suitable localities. An unusual nest was found on 5 Aug., 1949, on Hutton Buscel Moor, built amongst bracken and only 3 feet from the ground (A.J.W.).

#### **PINICOLA** Vieillot

**enucleator enucleator** (L.)—PINE-GROSBEAK. Accidental visitor. One shot at Littlebeck about 1861 (Nel., p. 196).

#### **LOXIA** Linnaeus

**curvirostra curvirostra** L.—COMMON CROSSBILL. Rare. Recorded very occasionally up to 1927, in which year an irruption occurred, birds being seen in many wooded areas. Since then has been recorded more frequently, and nesting was proved in 1943 (R.M.G.). As part of a widespread visitation in 1953 several records were made in the district, including a party of c.12 at Scarborough on 19 July (A.J.W.); at Thornton-le-Dale, 28 July (R.M.G.), and one on Pexton Moor in October (K. Green).

**leucoptera bifasciata** (Brehm)—TWO-BARRED CROSSBILL. Accidental visitor. Recorded in 1898 at Flamborough (Nel., p. 201). One seen in a pine wood near Goathland on 3 May, 1931 (W. S. Medlicott, Yorks. Birds, p. 54).

#### **FRINGILLA** Linnaeus

**coelebs** L.—CHAFFINCH. R. and W.V. Very common. Winter flocks probably increased by influx of continental birds.

**montifringilla** L.—BRAMBLING. W.V. Fairly common. Occurs regularly in varying numbers from about mid-October to end of March or early April.

#### **EMBERIZA** Linnaeus

**calandra** L.—CORN-BUNTING. R. Local. Can be considered common on the Wolds, but is rare north of the Vale of Pickering.

**citrinella citrinella** L.—YELLOW BUNTING. R. Very common.

[**cioides castaneiceps** Moore—EAST SIBERIAN MEADOW-BUNTING. One record. A bird caught alive on the shore at Flamborough, Nov. 1886 (Ibis, 1889, pp. 293-4 and 296). In a re-examination of this bird, R. Wagstaffe and K. Williamson, late of the Yorkshire Museum, York, came to the conclusion that it should

not stay on the list of British birds (North Western Naturalist, March-June, 1947, A Re-Examination of the British Record of *Emberiza cioides* Brandt).]

**schoeniclus schoeniclus** (L.)—REED-BUNTING. R. Not common. Breeds regularly in small numbers, mainly on the Carrs.

**CALCARIUS** Bechstein

**lapponicus lapponicus** (L.)—LAPLAND BUNTING. Occasional visitor. Four records. A bird netted with Skylarks at Scarborough, 6 Jan., 1893 (W.J.C.); an adult male close to the Bampton Cliffs on 11 May, 1893 (M. Bailey and J. Cordeaux); a considerable flock near Flamborough village in Nov., 1893 (M. Bailey); on Yons Nab, Gristhorpe Bay, one on 17 Jan., 1954, and two on 31 Jan., 1954 (A.J.W.). Probably overlooked amongst flocks of other species.

**PLECTROPHENAX** Stejneger

**nivalis nivalis** (L.)—SNOW-BUNTING. W.V. Occurs in small flocks, chiefly along the coast.

**PLOCEIDAE**

**PASSER** Brisson

**domesticus domesticus** (L.)—HOUSE SPARROW. R. Very abundant. Absent only from the moors and uninhabited moorland valleys.

**montanus montanus** (L.)—TREE-SPARROW. R. Local and not common.

**LULLULA** Kaup

**arborea arborea** (L.)—WOOD-LARK. Two records, one at Goathland on 7 Jan., 1927 (W. S. Medlicott, Yorks. Birds, p. 63), and three birds seen at Cayton Bay, 31 Oct., and 1 Nov., 1949 (H.P., A.J.W., E.A.W.).

**ALAUDA** Linnaeus

**arvensis arvensis** L.—SKY-LARK. R. and P. M. Common. Found chiefly in the cultivated parts, but occurs on the moors occasionally. Large flocks come from the Continent in autumn, but do not usually stay for the winter.

**EREMOPHILA** Boie

**alpestris flava** (Gm.)—SHORE-LARK. W.V. Rare. An unusually early record was made at Filey, 15 July, 1922 (Nat., 1922, p. 320). Last record, three on the Filey Cliffs on 26 Nov., 1950 (A.J.W.).

**MOTACILLIDAE**

**ANTHUS** Bechstein

**trivialis trivialis** (L.)—TREE-PIBIT. S.V. Not uncommon in wooded localities with open spaces.

**pratensis** (L.)—MEADOW-PIBIT. R. Common. Breeds regularly all over the district, but chiefly on the moors. Is found along the coast in winter, the numbers being increased by migratory birds. A juvenile ringed on Yons Nab, Gristhorpe Bay on 9 June, 1949, was in Portugal on 30 Oct., 1949 (A.J.W. and E. P. Leach, Brit. Birds, Vol. 53, p. 314).

**spinoletta spinoletta** (L.)—WATER-PIBIT. W.V. Very rare. Recorded at watercress beds near Pickering in 1939-40-41 (R.M.G., Nat., 1941, p. 92 and 1942, p. 98).

**spinoletta petrosus** (Mont.)—ROCK-PIBIT. R. Fairly common. Occurs along the coast throughout the year, the numbers being increased in winter.

#### **MOTACILLA** Linnaeus

**flava flava** L.—BLUE-HEADED WAGTAIL. One record, one at Flamborough on 12 May, 1950 (H.F. Woods, Nat., 1951, p. 58).

**flava flavissima** (Blyth)—YELLOW WAGTAIL. S.V. Rare. A pair nested near Scarborough Mere in 1922-3-4 (T.N.R., Nat., 1923, p. 27, and 1925, p. 22). Passage migration through the Vale of Pickering during April and May, 1947, and birds seen feeding fledged young there during June and August, 1947 (R.M.G.). A nest with five eggs found in the same locality, 28 May, 1949 (R.M.G.).

**cinerea cinerea** Tunst.—GREY WAGTAIL. R. Not common. Frequents the moorland streams, but is decreasing. Two nests with eggs found during 1949 (A.J.W.).

**alba yarrellii** Gould—PIED WAGTAIL. S.V. Common. Local breeding birds leave in the autumn, but records have been made throughout the winter months.

**alba alba** L.—WHITE WAGTAIL. P.M. Rare. Probably occurs more frequently than is recorded.

#### CERTHIIDAE.

#### **CERTHIA** Linnaeus

**familiaris britannica** Ridgw.—BRITISH TREE-CREEPER. R. Not common ; breeding only in the larger woods.

#### SITTIDAE

#### **SITTA** Linnaeus

**europaea affinis** Blyth—BRITISH NUTHATCH. R. Rare. First recorded in 1931, a pair nesting at Thornton-le-Dale. Not recorded again until 1946, when a pair again bred at Thornton-le-Dale. This pair was also successful in 1947, but in 1948 the male was killed before the eggs had hatched, the female soon after leaving the area (R.M.G.). Two pairs nested during 1949, one rearing a brood, the eggs of the other pair proving unfertile (R.M.G.).

#### PARIDAE

#### **PARUS** Linnaeus

**major newtoni** Praz.—BRITISH GREAT TIT. R. Common.

**caeruleus obscurus** Praz.—BRITISH BLUE TIT. R. Very Common.

The commonest species of tit in the district. In 1935, a pair nested in the top of an inhabited bee hive. The nest was placed in one corner, but the whole of the roof was filled with moss (E.A.W.).

**ater britannicus** Sharpe & Dress.—BRITISH COAL-TIT. R. Not common. Is mainly confined to the woodland areas.

**palustris dresseri** Stejn.—BRITISH MARSH-TIT. R. Not common. Also keeps to the woodlands, though recorded on the Wolds in Dec., 1946 (A.J.W.).

**atricapillus kleinschmidtii** Hellm.—BRITISH WILLOW-TIT. Rare. First recorded at Scarborough in 1926 (W.J.C.) ; H. F. Witherby recorded some at Forge Valley in 1935, and H. G. Alexander has records for Staintondale in 1936. Recorded regularly at Thornton-le-Dale, where it nested in 1938 and 1939 (R.M.G.).

#### **AEGITHALOS Hermann**

**caudatus rosaceus** Math.—BRITISH LONG-TAILED TIT. R. Not common. Subject to seasonal variations dependent upon the weather conditions during the winter months.

### LANIDAE

#### **LANUS Linnaeus**

**excubitor excubitor** L.—GREAT GREY SHRIKE. W.V. Irregular visitor, recent records being two at Dalby Warren, Thornton-le-Dale during Nov., 1946, one near Lockton, Dec., 1946—Jan., 1947 (R.M.G.), Cornelian Bay, 14 Nov., 1949 (M.E.W.), Harwood Dale, 28 Mar., 1950 (R.M.G.), Wheatcroft, 18 Mar., 1953 (M.E.W.), and Harwood Dale, 20 Sep., 1953 (A.J.W.).

**senator senator** L.—WOODCHAT SHRIKE. Rare vagrant. Three records. Two young birds obtained in the Castle Holmes, Scarborough, in 1860 or 1861, by A. S. Bell (Nel., p. 145). An adult male shot at Hackness, June, 1881 (Zool., 1892, p. 347). One seen at Reighton by G. A. Danford, 9 May, 1903 (Nat., 1903, p. 347).

**collurio collurio** L.—RED-BACKED SHRIKE. S.V. Very rare. Recorded six times. A pair found nesting on Oliver's Mount, Scarborough, on 3 June, 1889 (W.G.) ; one near the Mere, 15 May, 1889 (T.N.R.) ; a single bird near Scarborough in 1919 (W.J.C.) ; a female on the Racecourse, 21 May, 1933 (E.A.W.) ; one at Ayton, 21 May, 1933 (W.J.C., Nat., 1934, p. 19) ; one at West Ayton, 14 July, 1944 (T.N.R., Nat., 1945, p. 57).

### BOMBYCILLIDAE

#### **BOMBYCILLA Vieillot**

**garrulus garrulus** (L.)—WAXWING. W.V. Variable status. Large irruptions occurred in 1903, 1921-22, 1931-32 and 1941. During the winter of 1943-44 an exceptional invasion occurred, and as many as 200 birds stayed a fortnight at Scarborough. The latest record that year was on 22 April, 1944, at Ruston. Some years no records are received, but its occurrence seems to be becoming more regular, and birds have been seen for several years in succession.

### MUSCICAPIDAE

#### **MUSCICAPA Brisson**

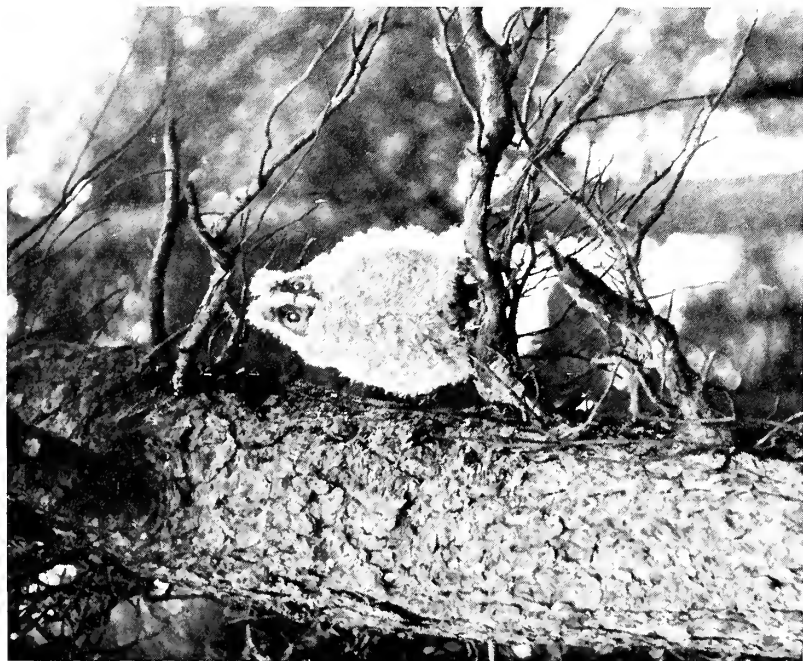
**striata striata** (Pall.)—SPOTTED FLYCATCHER. S.V. Common.





REED WARBLER (*Acrocephalus v. scirpaceus* (Herm.))

Photograph : H. H. Farwig



YOUNG LONG-FACED OWL (*Asio otus otus* (L.))

Photograph : E. A. Wallis





Is found generally throughout the district, except on the moorlands. Numbers appear to fluctuate, the species being noticeably more plentiful during 1945 and 1947.

**hypoleuca hypoleuca** (Pall.)—PIED FLYCATCHER. S.V. Local. Has steadily increased in numbers since about 1925, and is now well established and breeding regularly in local areas of the woods. Has been induced to breed within the last few years by the erection of nesting boxes in some afforested areas where it was formerly unknown (R.M.G.).

**parva parva** Bechst.—RED-BREASTED FLYCATCHER. Accidental visitor. One record; an immature bird taken on Oliver's Mount, Scarborough, on 23 Oct., 1889, by J. Morley (Nel., p. 152).

### REGULIDAE

#### REGULUS Cuvier

**regulus** (L.)—GOLDCREST. R. Common. Found chiefly in the fir woods, spreading to afforested areas quite soon after planting. Numbers increase in the autumn, possibly including some Continental birds.

### SYLVIIDAE

#### PHYLLOSOCOPUS Boie

**collybita collybita** (Vieill.)—CHIFFCHAFF. S.V. Rare. As late as 1926 was recorded as common, but has so decreased that only two or three are recorded each year. One seen at Thornton-le-Dale on 23 and 26 Dec., 1943, was believed to be one of the Northern races (R.M.G.).

**trochilus trochilus** (L.)—WILLOW-WARBLER. S.V. Abundant. The commonest of all the warblers, being well distributed throughout the district except on the higher moors.

**sibilatrix** (Bechst.)—WOOD-WARBLER. S.V. Not common. Has decreased from being a common species to one very locally distributed.

#### LOCUSTELLA Kaup

**naevia naevia** (Bodd.)—GRASSHOPPER-WARBLER. S.V. Rare. Recorded as very common in 1896, but decreased rapidly afterwards. A pair or two are recorded each year, but it is only rarely proved to breed.

#### ACROCEPHALUS Naumann

**scirpaceus scirpaceus** (Herm.)—REED-WARBLER. S.V. Local. After disappearing as a breeding species for many years, three pairs returned in 1929, and the species has bred regularly in one locality every year since.

**palustris** (Bechst.)—MARSH-WARBLER. S.V. Very rare. Two records; one at Scarborough Mere during the summer of 1928, (A.T.W., T.N.R., Nat., 1929, p. 78); one Throxenby Mere, 29 June, 1933 (T.N.R.).

**schoenobaenus** (L.)—SEDGE-WARBLER. S.V. Common. Breeds regularly in suitable localities.

**SYLVIA** Scopoli

**borin** (Bodd.)—GARDEN-WARBLER. S.V. Common. Breeds regularly in the woods.

**atricapilla atricapilla** (L.)—BLACKCAP. S.V. Common. Breeds regularly in the woods. One recorded as late as 24 Dec., 1935, at Scarborough Mere (T.N.R., Nat., 1936, p. 35); and as early as 9 March, 1943, at Thornton-le-Dale (R.M.G.).

**communis communis** Lath.—WHITETHROAT. S.V. Very common.

**curraca curraca** (L.)—LESSER WHITETHROAT. S.V. Very rare. Last definite breeding record 1929, when a nest with young was found at Cloughton (T.N.R., Nat., 1930, p. 80), but birds were seen carrying food at Cloughton during July, 1953 (R.S.P.).

**TURDIDAE****TURDUS** Linnaeus

**pilaris** L.—FIELDFARE. W.V. and P.M. Common. Large flocks occur regularly on the Marshes during the winter, and a late passage occurs in late April and early May (R.M.G.).

**viscivorus viscivorus** L.—MISTLE-THRUSH. R. Fairly common. Generally distributed.

**ericetorum** Turt.—SONG-THRUSH. R. Common. Absent from the high moors. Numbers decrease during the winter, following an increase at the end of September due to immigrant birds. e.g., one ringed as nesting at Noord, Holland, 13 May, 1939, recovered at Pickering, 20 Jan., 1940.

**musicus musicus** L.—REDWING. W.V. Common. Generally distributed, visiting the town gardens regularly. Suffers severely during hard weather, when numbers can be seen searching for food among seaweed-covered rocks along the tide line. T. Hyde-Parker found a freshly killed bird at Hunmanby on 29 June, 1940, an exceptionally late date.

**torquatus torquatus** L.—RING-OUZEL. S.V. Rare. Has steadily decreased for many years, and is seen only very locally. A female was seen in a garden in Scarborough on 20 and 21 Feb., 1948 (M.E.).

**merula merula** L.—BLACKBIRD. R., P.M. and W.V. Very common. The commonest thrush in the district. Numbers increased in the autumn, probably by immigrant birds.

**MONTICOLA** Boie

**saxatilis** (L.)—ROCK-THRUSH. One record, a bird near Robin Hood's Bay in June, 1852 (Nel., p. 21).

**OENANTHE** Vieillot

**oenanthe oenanthe** (L.)—WHEATEAR. S.V. Not common. Breeds on high ground just below the heather line. Numbers appear to have decreased in recent years. A late bird was recorded near Scarborough on 23 Nov., 1945 (T.N.R.).

**oenanthe leucorrhoa** (Gm.)—GREENLAND WHEATEAR. P.M. Rare. Possibly overlooked because of the difficulty of identification, but recorded by R.M.G. as follows:—Two males on Wilton Carr,

21 April, 1944 ; one male at Keld Head, Pickering, 8 May, 1942 ; one male at Thornton-le-Dale, 10 May, 1942.

**SAXICOLA** Bechstein

**rubetra** (L.)—WHINCHAT. S.V. Although recorded each year, there has been a marked and continuous decrease in the Scarborough area since the early 1930's. Still fairly common among the smaller trees in the Dalby Forest, Thornton-le-Dale (R.M.G.).

**torquata hibernans** (Hart.)—BRITISH STONECHAT. R. Very rare. As recently as 1938 numbers were increasing, birds breeding in all suitable localities. No records of breeding have been received for several years, and the species is now rarely seen, and then only on passage. Last recorded, one on passage with many other thrushes on Filey Cliffs, 18 Oct., 1953 (A.J.W.).

**PHOENICURUS** Forster

**phoenicurus phoenicurus** (L.)—REDSTART. S.V. Common. Breeds in suitably wooded parts of the district.

**ochurus gibraltariensis** (Gm.)—BLACK REDSTART. W.V. Rare. Odd birds are recorded from time to time, nearly always along the coast. Recent records, one on Castle Cliff, Scarborough, 8 Dec., 1948 (A.J.W., R.M.G.) ; a female on cliff top near Gristhorpe, 17 Jan., 1954 (A.J.W.).

**LUSCINIA** Forster

**megarhyncha megarhyncha** Brehm—NIGHTINGALE. S.V. Very rare. Four records ; Oliver's Mount, Scarborough, 10 May, 1882 ; Raincliffe Wood, Scarborough, 18 May, 1896 ; Filey, June, 1897 (Nel., p. 60). In May, 1933, one lived for two or three weeks in Peasholm Glen, Scarborough (T.N.R.).

**svecica svecica** (L.)—RED-SPOTTED BLUETHROAT. Rare vagrant. An adult visited the garden of W. J. Clarke in Scarborough on 16 Nov., 1925, and at intervals throughout the winter. In 1927, possibly the same bird visited the same garden on several occasions between Feb., and 30 April (W.J.C., Nat., 1926, p. 172). One in Holbeck Gardens, Scarborough, on 21 April, 1954 (G. H. Ainsworth).

**svecica cyanecula** (Meisn.)—WHITE-SPOTTED BLUETHROAT. Rare vagrant. The first British record ; a female found dead at Seamer, 12 April, 1876 (Hand. Brit. Birds, 1938, Vol. II, p. 198).

**ERATHICUS** Cuvier

**rubecula rubecula** (L.)—CONTINENTAL ROBIN. Passage birds moving down the coast, in some years in considerable numbers as in Oct., 1951, are known to include many of the Continental race. (see Yorks. Birds, p. 120).

**rubecula melophilus** Hart.—BRITISH ROBIN. R. and P.M. Very common.

PRUNELLIDAE

**PRUNELLA** Vieillot

**collaris collaris** (Scop.)—ALPINE ACCENTOR. One record, a bird shot at Scarborough during the winter of 1862-3 (Nel., p. 100).

*modularis occidentalis* (Hart.)—BRITISH HEDGE-SPARROW. R. Common.

### TROGLODYTIDAE

**TROGLODYTES** Vieillot

*trogodytes trogodytes* (L.)—WREN. R. Common.

### CINCLIDAE

**CINCLUS** Borkhausen

*cinclus cinclus* (L.)—BLACK-BELLIED DIPPER. One record, a bird taken at Flotmanby, near Filey, 8 Dec., 1875 (Nel., p. 103).

*cinclus gularis* (Lath.)—BRITISH DIPPER. R. Uncommon. Occurs sparingly on most streams, breeding regularly despite decreasing numbers. A nest is recorded near Scarborough built in a tree six feet above the water (W.J.C., Nat., 1925, p. 22).

### HIRUNDINIDAE

**HIRUNDO** Linnaeus

*rustica rustica* L.—SWALLOW. S.V. Common. Has decreased considerably, especially in the vicinity of the towns. Two young birds were seen at Scarborough on 22 Nov., 1942 (W.J.C.).

**DELICHON** Moore

*urbica urbica* (L.)—HOUSE-MARTIN. S.V. Common. A marked decrease was noted for many years, but it appears to be increasing again. Thirteen nests were counted in 1946 on one building, a site which has been known to carry as many as thirty nests, but was deserted for many years (A.J.W.). Latest record, one at Scarborough, 15 Dec., 1900 (E.A.W.).

**RIPARIA** Forster

*riparia riparia* (L.)—SAND-MARTIN. S.V. Local. Colonies of considerable size are to be found in suitable sand and gravel pits, river banks and cliffs.

### Order APODIFORMES

#### APODIDAE

**APUS** Scopoli

*melba melba* (L.)—ALPINE SWIFT. Accidental visitor. One at Scarborough, 17 April, 1880 (Nel., p. 265). An exhausted bird picked up on the Spa, Scarborough, 1890 (Nel., p. 265).

*apus apus* (L.)—SWIFT. S.V. Common. Considerable increase in recent years.

### Order CAPRIMULGIFORMES

#### CAPRIMULGIDAE

**CAPRIMULGUS** Linnaeus

*europaeus europaeus* L.—NIGHTJAR. S.V. Not common. Occurs in odd pairs at suitable localities along the edge of the moors. In 1926 a pair nested almost within the Scarborough Borough boundary.

## Order CORACIIFORMES

## MEROPIDAE

## MEROPS Linnaeus

**apiaster** L.—BEE-EATER. One record, a male caught alive in an exhausted state at Filey, June, 1880 (Nel., p. 283).

## UPUPIDAE

## UPUPA Linnaeus

**epops epops** L.—HOOPOE. Casual visitor. One at Scarborough Lighthouse, 1 Nov., 1900 (Capt. Grantham). Adult female shot at Ganton, 3 Nov., 1910 (W.J.C.). One caught on board a trawler off Scarborough, 7 Nov., 1932 (W.J.C.).

## CORACIIDAE

## CORACIAS Linnaeus

**garrulus garrulus** L.—ROLLER. Accidental visitor. One killed at Seamer in 1832, and one at Scarborough, 1833 (Nel., pp. 281-2).

## ALCEDINIDAE

## ALCEDO Linnaeus

**atthis ispida** L.—KINGFISHER. R. Rare. Found sparingly on the larger streams. Visits the Scarborough Mere in winter, and has been seen along the shore.

## Order PICIFORMES

## PICIDAE

## PICUS Linnaeus

**viridis pluvius** Hart.—GREEN WOODPECKER. R. Fairly common. Can be found in most wooded areas.

## DRYOBATES Boie

**major anglicus** (Hart.)—BRITISH GREAT SPOTTED WOODPECKER. R. Thinly distributed, but breeds regularly in the larger woods.

**minor comminutus** (Hart.)—BRITISH LESSER SPOTTED WOODPECKER. Rare. Occasional sight records without proof of breeding, and two definite instances of nesting, a pair near Pickering in 1942 (R.M.G., Nat., 1942, p. 159), and a pair at Thornton-le-Dale in 1953 (R.M.G., Nat., 1954, p. 60).

## JYNX Linnaeus

**torquilla torquilla** L.—WRYNECK. S.V. Very rare. Five records, the most recent being a dead bird found at Cloughton, 13 April, 1947 (H. Alport).

## Order CUCULIFORMES

## CUCULIDAE

## CUCULUS Linnaeus

**canorus canorus** L.—CUCKOO. S.V. Common. Generally distributed, but more abundant on the Wolds. In 1945 four extraordinarily early records were made in the district, Mr. W. Harland at Scalby and Dr. Robertson at Ayton each saw one on 15 Feb., one came

down exhausted in Scarborough on 15 Mar., and was seen by Mr. J. Morley, and a bird arrived at Staintondale on 27 Mar., being seen daily by Miss M. Lazenby until it began to call on 21 April (see Nat., 1946, p. 63).

### **COCCYZUS** Vieillot

**americanus americanus** (L.)—YELLOW-BILLED CUCKOO. Accidental visitor. One record, the first for Yorkshire, a bird at Cloughton from 14-17 Nov., 1953, lived in the garden of Mr. H. Ramsker (Nat., 1954, p. 78).

## Order STRIGIFORMES STRIGIDAE

### **NYCTEA** Stephens

**scandiaca** (L.)—SNOWY OWL. Accidental visitor. On three occasions it has been, or is supposed to have been, observed in the district. Between the years 1849 and 1853 at Scarborough, at Flamborough on 14 Oct., 1867, and near Scarborough in Dec., 1879 (Nel., pp. 309-310).

### **BUBO** Duméril

**bubo bubo** (L.)—EAGLE-OWL. Accidental visitor. One record at Scarborough, 30 Oct., 1879 (Nel., p. 314).

### **AEGOLIUS** Kaup

**funereus funereus** (L.)—TENGMALM'S OWL. Accidental visitor. Six local records are detailed by T. H. Nelson, the latest being one caught at Bickley, 7 Nov., 1901 (Nel., p. 303). There are no recent records.

### **ATHENE** Boie

**noctua vidalii** Brehm, A. E.—LITTLE OWL. R. Rare. Earliest record for the district was Nov., 1884, a bird being caught on board a trawler off Scarborough (Nat., 1884, p. 336). The species has slowly increased since then, and several records are received each year. It is met with in the Vale of Pickering, where pairs have been seen, and where it undoubtedly breeds (R.M.G.). A nest with four young was found at Ravenscar, 6 July, 1949 (A.J.W.). The species suffered severely during the bad weather of February and March, 1947.

### **ASIO** Brisson

**otus otus** (L.)—LONG-EARED OWL. R. Rare. In the 1920's was regarded as being fairly common, the species breeding regularly in many of the fir woods. Has decreased enormously and is now decidedly rare, very few breeding records having been received for many years. The last authentic record of a pair nesting is at Wilton, Vale of Pickering, in 1938 (R.M.G.).

**flammeus flammeus** (Pont.)—SHORT-EARED OWL. W.V. Numbers fluctuate, but is rarely numerous. Has been known to breed occasionally on the moors.

### **STRIX** Linnaeus

**aluco sylvatica** Shaw—BRITISH TAWNY OWL. R. Fairly common.



Breeds throughout the district, and is well established within the Scarborough Borough boundary.

**TYTO** Billberg

**alba alba** (Scop.)—WHITE-BREASTED BARN-OWL. R. Rare.

Breeding is recorded but only sparingly.

**alba guttata** (Brehm)—DARK-BREASTED BARN-OWL. Rare  
vagrant. Two records; one at Yedingham, 28 Jan., 1939 (T.N.R.);  
one at Goathland, 14 Oct., 1944 (Brit. Birds, xxxviii., p. 175).

**Order FALCONIFORMES**

**FALCONIDAE**

**FALCO** Linnaeus

**rusticolus islandus** Bruenn.—ICELAND FALCON. Accidental visitor.

One killed on Filey Brigg, 4 Oct., 1864 (Nel., p. 356).

Accidental

lay, 25 Nov.,

**ERRATUM**

Page 389, Vol. 2, Natural History of the  
Scarborough District. Under the heading  
FALCONIDAE entry of "subbuteo subbuteo L."  
should read as follows.

N. Regular  
eding occurred  
oton regularly  
ist attempt at

e six or seven

**subbuteo subbuteo** L.—HOBBY. S.V. Very rare.

Some six or seven records the most recent being  
two at Goathland, 2 August, 1941.

(Nat., 1942, p. 103).

one time bred  
only occasion-  
a birch tree,  
; was found in

-----  
a crow's nest in an alder (R.M.G.).

**tinnunculus tinnunculus** L.—KESTREL. R. Common. Well distributed.

**vespertinus vespertinus** L.—RED-FOOTED FALCON. Accidental  
visitor. Recorded at Bempton, 6 July, 1865, and 18 June, 1869  
(Nel., p. 368).

**ACCIPITRIDAE**

**AQUILA** Brisson

**chrysaëtus chrysaëtus** (L.)—GOLDEN EAGLE. Accidental visitor.

One taken at Hunmanby, 24 July, 1844, and one caught at Helwath,  
Harwood Dale, in 1850 (Nel., pp. 332-3).

**BUTEO** Lacépède

**lagopus lagopus** (Pont.)—ROUGH-LEGGED BUZZARD. Occasional  
visitor. Usually seen singly, but between 13 Oct., and 7 Nov.,  
1903, twenty were reported. Last recorded in Forge Valley, 12 to  
20 Nov., 1947 (R.M.G., A.J.W.).

**buteo buteo** (L.)—COMMON BUZZARD. Occasional visitor. Last  
recorded in 1942, three separate birds being seen during the year.

down exhausted in Scarborough on 15 Mar., and was seen by Mr. J. Morley, and a bird arrived at Staintondale on 27 Mar., being seen daily by Miss M. Lazenby until it began to call on 21 April (see Nat., 1946, p. 63).

### **COCCYZUS Vieillot**

**americanus americanus (L.)—YELLOW-BILLED CUCKOO.** Accidental visitor. One record, the first for Yorkshire, a bird at Clough-ton from 14-17 Nov., 1953, lived in the garden of Mr. H. Ramsker (Nat., 1954, p. 78).

## **Order STRIGIFORMES** **STRIGIDAE**

### **NYCTEA Stephens**

**scandiaca (L.)—SNOWY OWL.** Accidental visitor. On three occasions it has been, or is strictly. Between the years borough on 14 Oct., 1 (Nel., pp. 309-310).

### **BUBO Duméril**

**bubo bubo (L.)—EAGLE**  
Scarborough, 30 Oct., 1

### **AEGOLIUS Kaup**

**funereus funereus (L.)—**  
Six local records are de caught at Bickley, 7 recent records.

### **ATHENE Boie**

**noctua vidalii Brehm, A.**  
record for the district was Nov., 1884, a bird being caught on a trawler off Scarborough (Nat., 1884, p. 336). The species has slowly increased since then, and several records are received each year. It is met with in the Vale of Pickering, where pairs have been seen, and where it undoubtedly breeds (R.M.G.). A nest with four young was found at Ravenscar, 6 July, 1949 (A.J.W.). The species suffered severely during the bad weather of February and March, 1947.

### **ASIO Brisson**

**otus otus (L.)—LONG-EARED OWL.** R. Rare. In the 1920's was regarded as being fairly common, the species breeding regularly in many of the fir woods. Has decreased enormously and is now decidedly rare, very few breeding records having been received for many years. The last authentic record of a pair nesting is at Wilton, Vale of Pickering, in 1938 (R.M.G.).

**flammeus flammeus (Pont.)—SHORT-EARED OWL.** W.V. Numbers fluctuate, but is rarely numerous. Has been known to breed occasionally on the moors.

### **STRIX Linnaeus**

**aluco sylvatica Shaw—BRITISH TAWNY OWL.** R. Fairly common.

Breeds throughout the district, and is well established within the Scarborough Borough boundary.

**TYTO** Billberg

**alba alba** (Scop.)—WHITE-BREASTED BARN-OWL. R. Rare.

Breeding is recorded but only sparingly.

**alba guttata** (Brehm)—DARK-BREASTED BARN-OWL. Rare vagrant. Two records; one at Yedingham, 28 Jan., 1939 (T.N.R.); one at Goathland, 14 Oct., 1944 (Brit. Birds, xxxviii., p. 175).

**Order FALCONIFORMES**

**FALCONIDAE**

**FALCO** Linnaeus

**rusticolus islandus** Bruenn.—ICELAND FALCON. Accidental visitor. One killed on Filey Brigg, 4 Oct., 1864 (Nel., p. 356).

**rusticolus candicans** Gm.—GREENLAND FALCON. Accidental visitor. A mature bird killed near Robin Hood's Bay, 25 Nov., 1854 (Zool., 1885, p. 4558).

**peregrinus peregrinus** Tunst.—PEREGRINE FALCON. Regular visitor. Single birds are recorded each year. Breeding occurred on Redcliff, Cayton Bay in 1901-2-3, and at Bempton regularly up to 1912, then spasmodically until 1920. The last attempt at breeding there was in 1938 (Yorks. Birds, p. 150).

**subbuteo subbuteo** L.—HOBBY. S.V. Very rare. Some six or seven breeding there was in 1938 (Yorks. Birds, p. 150). (Nat., 1942, p. 103).

**columbarius aesolon** Tunst.—MERLIN. R. Rare. At one time bred regularly in known localities on the moors, but is now only occasionally met with. In 1923, a nest was recorded in a birch tree, 14 feet from the ground (E.A.W.); and in 1942, one was found in a crow's nest in an alder (R.M.G.).

**tinnunculus tinnunculus** L.—KESTREL. R. Common. Well distributed.

**vespertinus vespertinus** L.—RED-FOOTED FALCON. Accidental visitor. Recorded at Bempton, 6 July, 1865, and 18 June, 1869 (Nel., p. 368).

**ACCIPITRIDAE**

**AQUILA** Brisson

**chrysaëtus chrysaëtus** (L.)—GOLDEN EAGLE. Accidental visitor. One taken at Hunmanby, 24 July, 1844, and one caught at Helwath, Harwood Dale, in 1850 (Nel., pp. 332-3).

**BUTEO** Lacépède

**lagopus lagopus** (Pont.)—ROUGH-LEGGED BUZZARD. Occasional visitor. Usually seen singly, but between 13 Oct., and 7 Nov., 1903, twenty were reported. Last recorded in Forge Valley, 12 to 20 Nov., 1947 (R.M.G., A.J.W.).

**buteo buteo** (L.)—COMMON BUZZARD. Occasional visitor. Last recorded in 1942, three separate birds being seen during the year.

**CIRCUS** Lacépède

**pygargus** (L.)—MONTAGU'S HARRIER. S.V. Very rare. Has been known to breed within recent years.

**cyaneus cyaneus** (L.)—HEN-HARRIER. W.V. Rare. Formerly bred in the district, the latest record being in 1907, from near Thornton-le-Dale (O.G.) ; now occurs at irregular intervals on the moors.

**ACCIPITER** Brisson

**gentilis gentilis** (L.)—GOSHAWK. Very rare. One was shot on Filey Brigg, Oct., 1864, and some five others were recorded between 1864 and 1904 (Nel., pp. 339-40).

**nisus nisus** (L.)—SPARROW-HAWK. R. Fairly common.

**MILVUS** Lacépède

**milvus milvus** (L.)—KITE. Accidental visitor. Three birds are recorded as having been taken between 1850 and 1901, the latest being a female caught at Flamborough, 15 Oct., 1901 (Nel., pp. 344 and 345).

**HALIAEETUS** Savigny

**albicilla** (L.)—WHITE-TAILED EAGLE. Occasional visitor. In February 1948, one lived on the moors for some three weeks, returning each night to the same roost, and hunting during the day over a wide area including moors and marsh land (R.M.G., M.F.M.M., A.J.W.). Two earlier records refer to a male found dead at Cloughton on 12 Mar., 1942 (W.J.C.), and a bird shot at Bickley on 1 May, 1911 (Nat., 1911, p. 237). Nelson also mentions some four or five other occurrences (Nel., p. 336).

[**leucocephalus** (L.)—AMERICAN BALD EAGLE. A bird in the Scarborough Natural History Museum which P. A. Clancey identified as a specimen of the American Bald Eagle though labelled as a White-tailed Eagle was connected by Mr. Clancey with the bird recorded as trapped at Long Pain, Bee Dale in 1865 (Nel., pp. 336-37). There is still some doubt if the bird is the same as the one referred to by Nelson as it was presented to the Museum by Mr. E. P. Brett, whereas the bird of 1865 was set up for Lady Downe and no transference of ownership to Mr. Brett can be traced.]

**PERNIS** Cuvier

**apivorus apivorus** (L.)—HONEY-BUZZARD. Accidental visitor. Two records, a bird shot on Seamer Moor, June, 1902 (W.J.C.), a dead bird found on Filey Sands on 7 Mar., 1929 (Nat., 1929, p. 174).

**PANDIONIDAE****PANDION** Savigny

**haliaetus haliaetus** (L.)—OSPREY. Accidental visitor. One frequented Scarborough Mere from May 10 to 17, 1900 (T.N.R.) ; one at Scarborough Mere, 30 April, 1924, and one, possibly the same bird, was seen at Hackness Pond the following week (Nat., 1924, p. 210 and 1925, p. 22).

## Order CICONIIFORMES

## CICONIIDAE

## CICONIA Brisson

**ciconia ciconia** (L.)—WHITE STORK. One record, a bird found dead floating in the sea at Scarborough on 8 April, 1838 (Nel., p. 405).

## THRESKIORNITHIDAE

## PLEGADIS Kaup

**falcinellus falcinellus** (L.)—GLOSSY IBIS. Accidental visitor. Three records. An immature bird caught at Filey, 1863 (Nel., p. 406), one shot and two others seen at Hunmanby, 15 Oct., 1909 (E. Mitford, Field, 6 Nov., 1909), and an adult shot at Cloughton, April, 1916 (W.J.C.).

## ARDEIDAE

## ARDEA Linnaeus

**cinerea cinerea** L.—COMMON HERON. R. Scarce. The nearest heronry is just outside the district. Chiefly seen on the Carrs and occasionally on the sea shore.

**purpurea purpurea** L.—PURPLE HERON. One record, a bird shot at Flamborough in 1833 (Nel., p. 391).

## IXOBRYCHUS Billberg

**minutus minutus** (L.)—LITTLE BITTERN. Accidental visitor. Four records. Single birds at Scarborough Mere, Aug., 1863; Scalby Beck, 25 Feb., 1879; Filey, 27 Dec., 1879; and near Scarborough, 7 Jan., 1902 (Nel., pp. 397-8).

## BOTAURUS Stephens

**stellaris stellaris** (L.)—BITTERN. W.V. Rare. Odd birds occur at infrequent intervals. Last recorded at Seamer 13 Jan., 1938 (Nat., 1939, p. 14). An adult was found alive in the Cemetery, Scarborough, on 24 Dec., 1936, and lived for some days at the Mere before disappearing (Nat., 1937, p. 54).

## Order ANSERIFORMES

## ANATIDAE

## CYGNUS Bechstein

**cygnus** (L.)—WHOOPEE SWAN. W.V. Rare. Small parties seen on migration fairly regularly on the Carrs (R.M.G.).

**bewickii bewickii** Yarr.—BEWICK'S SWAN. W.V. and P.M. Small parties, and sometimes very large flocks, seen regularly on migration (R.M.G.).

**olor** (Gm.)—MUTE SWAN. R. and W.V. Occurs regularly in the district, some birds probably being truly wild. All known breeding pairs are semi-domesticated.

## ANSER Brisson

**anser anser** (L.)—GREY LAG-GOOSE. W.V. Occurs very rarely.

**albifrons albifrons** (Scop.)—WHITE-FRONTED GOOSE. W.V. and P.M. Flocks seen on migration crossing the Carrs, chiefly in the late autumn. Not recorded in every year, being spasmodic in its occurrence.

*fabalis fabalis* (Lath.)—BEAN-GOOSE. P.M. Occurs rarely, chiefly along the coast. Last record, a dead bird on the South Sands, Scarborough, 6 Mar., 1940 (W.J.C., Nat., 1941, p. 93).

*fabalis brachyrhynchus* Baill.—PINK-FOOTED GOOSE. P.M. and W.V. The commonest of the geese seen in the district. The first to arrive, the chief line of flight apparently being across the moors from Teesmouth or Solway, in a direct line to the Humber.

#### BRANTA Scopoli

*leucopsis* (Bechst.)—BARNACLE-GOOSE. P. M. and W.V. Very rare.

*bernica bernica* (L.)—DARK-BREASTED BRENT GOOSE. P.M.

*bernica hrota* (Muell.)—PALE-BREASTED BRENT GOOSE. P.M. Both sub-species have been recorded, though the occurrence is very irregular. A considerable migration was recorded during Nov., 1920 (W.J.C., Nat., 1921, p. 25).

*canadensis canadensis* (L.)—CANADA GOOSE. Very rare. Two records. One at Scalby Ness, 22 May, 1904 (W.J.C.) ; one on the Ellerburn pond, 9 April, 1949 (R.M.G.).

#### TADORNA Boie

*tadorna* (L.)—SHELD-DUCK. P.M. Rare. Does not breed within the district. Small flocks and odd birds seen occasionally along the coast, and more rarely during floods inland.

#### ANAS Linnaeus

*platyrhyncha platyrhyncha* L.—MALLARD. R. and W.V. Common.

Numbers greatly increased during winter, a few remaining to breed.

*strepera* L.—GADWALL. W.V. Very rare. Last recorded on Scarborough Mere, 13 Nov., 1945 (T.N.R.).

*crecca crecca* L.—TEAL. R. and W.V. Common on the Marishes in winter. Breeds sparingly within the district.

*crecca carolinensis* Gm.—GREEN-WINGED TEAL. One record, a bird shot at Scarborough, Nov., 1851 (Nel., p. 456).

*querquedula* L.—GARGANEY. P.M. Rare. Last record three males and one female seen on the Marishes, 14 Mar., 1948 (R.M.G.).

*penelope* L.—WIGEON. W.V. Common. Flocks seen regularly along the coast, and the species is very numerous during the winter months on flooded land in the Vale of Pickering.

*acuta acuta* L.—PINTAIL. W.V. Rare. Occurs on the Marishes fairly regularly, usually during the spring migration (R.M.G.).

#### SPATULA Boie

*clypeata* (L.)—SHOVELER. W.V. Seen regularly on the Marishes during the winter months (R.M.G.).

#### AYTHYA Boie

*ferina* (L.)—COMMON POCHARD. W.V. Uncommon. Irregular in its occurrence, but a few often seen on winter floods in the Vale of Pickering. Formerly nested at Scarborough Mere (Nel., p. 462), and a brood was reared on Throxenby Mere in 1936 (W.J.C.).

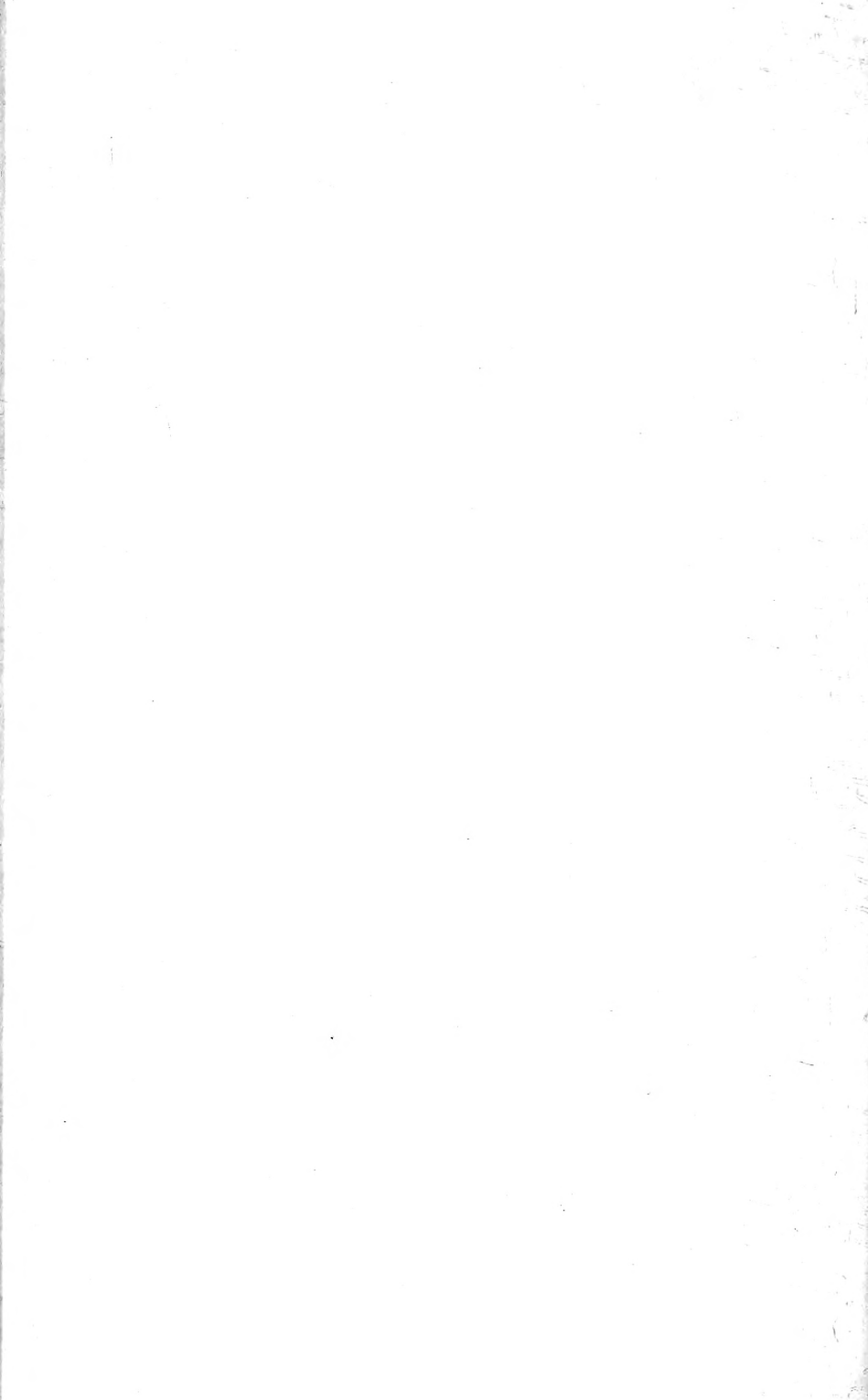




PINTAIL (*Anas acuta acuta* L.) Male and Female

Photograph : J. V. Beer





**fuligula** (L.)—TUFTED DUCK. W.V. Uncommon. Occurs irregularly along the coast and in the Vale of Pickering during times of flooding.

**marila marila** (L.)—SCAUP-DUCK. W.V. Uncommon. Small flocks seen each year along the coast. In very hard weather numbers are considerably increased. During Feb. and Mar., 1947, flocks of 200-300 birds were seen regularly in the North Bay, Scarborough (A.J.W.). Occasionally seen inland on the Marishes (R.M.G.).

#### **BUCEPHALA** Baird

**clangula clangula** (L.)—GOLDENEYE. W.V. Not common. Odd birds and small parties seen fairly regularly along the coast and on the Marishes.

#### **CLANGULA** Leach

**hyemalis** (L.)—LONG-TAILED DUCK. W.V. Rare. Majority of records are of birds seen in Scarborough Harbour during stormy weather.

#### **HISTRIONICUS** Lesson

**histrionicus histrionicus** (L.)—HARLEQUIN-DUCK. Accidental visitor. One found dead at Filey, 1862 (Nel., p. 474., and Hand. Brit. Birds, 1938, Vol. 3, p. 326).

#### **POLYSTICTA** Eyton

**stelleri** (Pall.)—STELLER'S EIDER. Accidental visitor. Young male shot off Filey Brigg, 15 Aug., 1845 (Nel., p. 476, and Hand. Brit. Birds, 1938, Vol. 3, p. 332).

#### **SOMATERIA** Leach

**mollissima mollissima** (L.)—COMMON EIDER. Rare. Surprisingly few records have been made.

#### **MELANITTA** Boie

**nigra nigra** (L.)—COMMON SCOTER. W.V. Common along the coast, often being driven to shelter in the harbours and bays during hard weather.

**fusca fusca** (L.)—VELVET SCOTER. W.V. and P.M. Rare. Occasionally seen along the coast, but does not appear to remain long in one locality.

#### **MERGUS** Linnaeus

**merganser merganser** L.—GOOSANDER. W.V. Not common. Odd birds seen on suitable lakes and along the coast. Occasional inland on the River Derwent at Marishes.

**serrator** L.—RED-BREASTED MERGANSER. W.V. Rare. Chiefly immature birds recorded. Has not been recorded inland. Last records, a pair of adult birds off Filey Brigg, 21 Nov., 1948 (A.J.W.), and four in Scarborough Harbour from 13-28 Feb., 1954 (A.J.W.).

**albellus** L.—SMEW. W.V. Rare. Very few records. A female lived at Scarborough Mere from 16 to 21 Feb., 1947 (A.J.W., R.M.G.), and a female on Peasholm Lake, Scarborough, on 7 Mar., 1954 (A.J.W.).

## Order PELECANIFORMES

## PHALACROCORACIDAE

## PHALACROCORAX Brisson

*carbo carbo* (L.)—CORMORANT. R. Common. Well established colonies nest each year on the cliffs at Ravenscar and Gristhorpe, and odd pairs breed sporadically at Bempton.

*aristotelis aristotelis* (L.)—SHAG. W.V. Not common. Odd birds usually seen. Small parties seek shelter in Scarborough Harbour during stormy weather. Can be seen off Bempton Cliffs as late as April and early May, and during the past three years birds have remained throughout the summer. Breeding has been suspected because of the behaviour of these birds, but has not been proved conclusively.

## SULIDAE

## SULA Brisson

*bassana* (L.)—GANNET. R. and P.M. Not common. First nested at Bempton in 1927, and has done so more or less regularly since. Young were seen in the nest, 12 July, 1938 (R.M.G.). In 1948 the climbers reported three nests of which one had an egg, but only five adults were frequenting the cliffs (E.A.W.). There were still five birds present during 1949, one pair being successful in rearing a young one (A.J.W.). In 1950 no young were observed but in 1951 one, possibly two, young were reared. Three young were successfully reared in 1952, and again in 1953 (A.J.W.).

## Order PROCELLARIIFORMES

## HYDROBATIDAE

## HYDROBATES Boie

*pelagicus* (L.)—STORM-PETREL. W.V. Rare. Occasionally seen along the coast, usually during high winds.

## OCEANODROMA Reichenbach

*leucorrhoa leucorrhoa* (Vieill.)—LEACH'S FORK-TAILED PETREL. Accidental visitor. Four records. A female at Flamborough, Dec., 1883 (Nel., p. 751); two seen in the North Bay, Scarborough, 13 Nov., 1901 (W.J.C.); single birds shot at Flamborough in Oct., 1908 (W. Hewitt, Yorks. Birds, p. 208); and two found dead near Pickering during the wreck of Oct., 1952, both having, presumably, been blown over the Pennines from the west coast (R.M.G.).

## PROCELLARIIDAE

## PUFFINUS Brisson

*puffinus puffinus* (Bruenn.)—MANX SHEARWATER. P.M. Rare. Seen only occasionally, usually during the autumn. Latest records, two about three miles offshore from Cloughton Wyke, 18 Aug., 1949 (E.O.W.); one off Filey Brigg, 18 Sept., 1949; 3 Sept., 1950, and 26 July, 1952 (A.J.W.).

*puffinus mauretanicus* Lowe—BALEARIC SHEARWATER. Accidental visitor. Recorded several times between 1890 and 1900: No

recent records. See Nel., p. 761., and Hand. Brit. Birds, 1938, Vol. 4, p. 47.

**gravis** (O'Reilly)—GREAT SHEARWATER. W.V. Rare. Autumn and winter visitor of uncertain occurrence. Seen more frequently off Flamborough Head than elsewhere (Nel., p. 752 et seq.).

**griseus** (Gm.)—SOOTY SHEARWATER. W.V. Rare. Recorded irregularly, though probably occurs fairly frequently (Nel., p. 755 et seq.).

### **BULWERIA** Bonaparte

**bulwerii** (Jard. & Selby)—BULWER'S PETREL. Accidental visitor. One record, a bird found dead near Scarborough, 28 Feb., 1908 (W.E.C., Nat., 1922, p. 128).

### **FULMARUS** Stephens

**glacialis** (L.)—FULMAR PETREL. R. Common. Before 1919, when three birds were recorded frequenting Speeton Cliffs, was only occasionally seen out to sea by fishermen. By 1922, fifteen to twenty pairs were recorded from Bempton and eggs were taken by the climbers. Since then the bird has spread northwards along the cliffs within the district, and now breeds on most suitable cliff faces. By 1938 over one hundred pairs were counted at Bempton (Nat., 1939, p. 15). During the summer of 1949 young birds unable to fly were seen on the Cliffs at Cloughton Wyke; Castle Cliff, Scarborough; Red Cliff, Cayton Bay; Mell Casty Cliff and Pudding Hole, Gristhorpe and on the Speeton and Bempton Cliffs (A.J.W.). On 4 May, 1942, two were seen being mobbed by Rooks at Thornton-le-Dale, fourteen miles from the coast (R.M.G., Nat., 1943, p. 50.)

## **Order PODICIPITIFORMES**

### **PODICIPITIDAE**

### **PODICEPS** Latham

**cristatus cristatus** (L.)—GREAT CRESTED GREBE. W.V. Rare. Does not breed in the district, occurring irregularly during the winter on the sea and larger ponds near the coast. One record only from inland, one seen at Marishes, 28 Sept., 1946 (R.M.G.).

**griseigena griseigena** (Bodd.)—RED-NECKED GREBE. W.V. Rare. An infrequent visitor, usually odd birds being recorded, chiefly along the coast, but occasionally inland.

**auritus** (L.)—SLAVONIAN GREBE. W.V. Rare. Single birds seen along the coast during hard weather. Has not been recorded inland. During Feb. and Mar., 1947, several were recorded within the neighbourhood of Scarborough.

**nigricollis nigricollis** Brehm—BLACK-NECKED GREBE. W.V. Rare. Recorded some five or six times. Latest records are one in Scarborough Harbour, 30 Jan., 1939 (T.N.R.); one on the Marishes, 16 Jan., 1939 (R.M.G.); one in the South Bay, Scarborough, 2 Jan., 1950 (A.J.W.).

**ruficollis ruficollis** (Pall.)—LITTLE GREBE. R. Not common. Breeds regularly in one or two suitable localities.

## Order COLYMBIFORMES

## COLYMBIDAE

## COLYMBUS Linnaeus

**immer** Bruenn.—GREAT NORTHERN DIVER. W.V. Rare. Five or six records. Latest records, a bird lived in and about the harbour from 16 to 31 Dec., 1949 (R.M.G., A.J.W., E.A.W.), and two in Filey Bay on 12 Feb., 1950 (A.J.W.).

**adamsii** Gray—WHITE-BILLED NORTHERN DIVER. Accidental visitor. Three records. One shot from Filey Brigg in Jan., 1887 (Nel., p. 734) ; one seen in Scarborough Harbour, 1 and 2 Mar., 1916 (W.J.C., Nat., 1916, p. 218) ; and one found dead on Scarborough sands by E. Sigston on 30 Jan., 1952 (Nat., 1952, p. 105).

**arcticus arcticus** L.—BLACK-THROATED DIVER. W.V. Rare. Five or six records. Occasional inland.

**stellatus** Pont.—RED-THROATED DIVER. W.V. Not uncommon. Single birds occur each year along the coast, often seeking shelter in Scarborough Harbour. During Feb., 1947, three spent a week in the harbour (A.J.W.). Very few records from inland waters.

## Order COLUMBIFORMES

## COLUMBIDAE

## COLUMBA Linnaeus

**palumbus palumbus** L.—WOOD-PIGEON. R. and W.V. Very common. Generally distributed, being absent only on the higher moorlands.

**aenas** L.—STOCK-DOVE. R. Fairly common. Locally distributed, but well established.

**livia livia** Gm.—ROCK-DOVE. R. Breeds on Speeton and Bempton Cliffs. Due to incursion of domestic pigeons a mixture of the two occurs, but it is doubtful if the statement in the Handbook that the wild type predominates is true (A.J.W.).

## STREPTOPELIA Bonaparte

**turtur turtur** (L.)—TURTLE-DOVE. S.V. Fairly common. Recorded in 1897 on migration only. 'First recorded nesting in 1900 (Nel., p. 497). Has increased as a nesting species since, breeding in considerable numbers on the Wolds, and is spreading northwards to the afforested areas to the west and north of Scarborough.

**orientalis orientalis** (Lath.)—EASTERN RUFOUS TURTLE-DOVE. Accidental visitor. The first British record, a bird shot at White Nab, Scarborough, 23 Oct., 1889, (Nel., p. 498, and Hand. Brit. Birds, 1938, Vol. 4, p. 145).

## PTEROCLIDAE

## SYRRHAPTES Illiger

**paradoxus** (Pall.)—PALLAS'S SAND-GROUSE. Accidental visitor. Two or three flocks were seen in the Scarborough district during the irruption of May and June, 1888 (Nel., pp. 499-503).

Order CHARADRIIFORMES  
SCOLOPACIDAE

**LIMOSA** Brisson

**lapponica lapponica** (L.)—BAR-TAILED GODWIT. P.M. Not common. Single birds recorded along the coast at irregular intervals, but only one record inland, three at Marishes, 1 Oct., 1946 (R.M.G.).

**limosa limosa** (L.)—BLACK-TAILED GODWIT. P.M. Very rare. Two records, a bird shot on the Carrs, Sept., 1923 (W.J.C.), and a flock of 46-48 at Marishes, 26 April, 1947 (R.M.G.).

**NUMENIUS** Brisson

**arquata arquata** (L.)—COMMON CURLEW. R. and P.M. Fairly common. Breeds regularly on the moors, though numbers have decreased owing to military and forestry activities. Also nests on the Carrs. Frequents the shore throughout the winter, numbers being greatly increased by passage migrants.

**phaeopus phaeopus** (L.)—WHIMBREL. P.M. Uncommon. Small numbers recorded on passage each year, chiefly in flight at night.

**SCOLOPAX** Linnaeus

**rusticola** L.—WOODCOCK. R. and W.V. Fairly common. Breeds regularly in wooded parts. Numbers increased during hard weather. In Feb. and Mar., 1947, birds were seen regularly in the town gardens (A.J.W.).

**CAPELLA** Frenzel

**media** (Lath.)—GREAT SNIPE. Accidental visitor. No definite records since the bird shot at Scampston on 18 Sept., 1884, mentioned by the late W. H. St. Quintin (Yorks. Birds, p. 236).

**gallinago gallinago** (L.)—COMMON SNIPE. R. and W.V. Breeds regularly on the Carrs and moors. Numbers considerably increased in the winter.

**LYMNOCRYPTES** Boie

**minimus** (Bruenn.)—JACK SNIPE. W.V. Scarce. Regular in late autumn at Keld Head, Pickering, but recorded irregularly elsewhere, probably being overlooked.

**PHALAROPUS** Brisson

**fulicarius** (L.)—GREY PHALAROPE. W.V. Rare. Recorded at infrequent intervals. One in North Bay, Scarborough, 2 Feb., 1940 (Nat., 1941, p. 94), the most recent being one in Filey Bay, 31 Oct., 1954 (A.J.W.).

**lobatus** (L.)—RED-NECKED PHALAROPE. Accidental visitor. One record, an adult male shot in North Bay, Scarborough, 10 Oct., 1892 (W.J.C.).

**ARENARIA** Brisson

**interpres interpres** (L.)—TURNSTONE. P.M. Fairly common. Small flocks or single birds recorded regularly along the coast. Chiefly immature birds.



**CALIDRIS** Anonymous

**canutus canutus** (L.)—KNOT. P.M. and W.V. Common. Flocks of up to one hundred birds seen regularly along the coast. Rarely seen inland.

**alpina schinzii** (Brehm)—SOUTHERN DUNLIN.

**alpina alpina** (L.)—NORTHERN DUNLIN. A regular visitor on migration, though the large flocks seen by observers forty years ago no longer occur. Local records do not specify sub-species, but it is assumed that both occur.

**testacea** (Pall.)—CURLEW-SANDPIPER. P.M. Rare. Apparently oversteps the district on migration. Has been recorded only four times, the most recent being six at Filey, 11 Sept., 1948 (E.A.W.). Recorded once inland at Marishes, 1 Oct., 1946 (R.M.G.).

**minuta** (Leisl.)—LITTLE STINT. P.M. Very rare. Four records, one in the North Bay, Scarborough, 19 Sept., 1899 (W.J.C.), and one at Marishes, 1 Oct., 1946 (R.M.G.), and single birds on Filey Brigg, 18 Sept., 1949, and 30 Aug., 1953 (A.J.W.). Doubtless other birds have been overlooked and not recorded.

**melanotos** (Vieill.)—AMERICAN PECTORAL SANDPIPER. One record, a bird at Filey in 1854 (F. O. Morris's British Birds, Vol. IV, p. 316).

**maritima maritima** (Bruenn.)—PURPLE SANDPIPER. P.M. and W.V. Fairly common. Occurs regularly every year, small flocks winter in suitable localities.

**CROCETHIA** Billberg

**alba** (Pall.)—SANDERLING. W.V. Fairly common. Seen regularly along the coast, usually singly or in small flocks.

**PHILOMACHUS** Anonymous

**pugnax** (L.)—RUFF. P.M. Rare. Occasionally seen on the Marishes. Last record, up to twenty during an unusual period of flooding from 22—31 Aug., 1954 (R.M.G.), and two at Staxton on 22 Aug., 1954 (A.J.W.).

**ACTITIS** Illiger

**hypoleucos** (L.)—COMMON SANDPIPER. S.V. Not common. Breeds regularly, but numbers are decreasing rapidly.

**TRINGA** Linnaeus

**glareola** L.—WOOD-SANDPIPER. P.M. Very rare. Three on marshy ground near Staxton, 22 Aug., 1954 (A.J.W.), and three or four beside floods at Marishes from 22 Aug.—5 Sept., 1954 (R.M.G.). The first records for the district.

**ochropus** L.—GREEN SANDPIPER. P.M. and W.V. Not common. Recorded regularly from the Carrs during the first week in August, usually as single birds. A flock of seven seen at Ganton, 2 Aug., 1948 (E.A.W., A.J.W.). Up to twenty together near Staxton on 22 Aug., 1954 (A.J.W.).

**totanus britannica** Math.—BRITISH REDSHANK. R. and P.M. Not common. Breeds regularly in small numbers. Some birds stay through the winter, chiefly along the coast.



**erythropus** (Pall.)—SPOTTED REDSHANK. P.M. Very rare. One record, a single bird at Marishes during a period of unusual flooding, 28—31 Aug., 1954 (R.M.G., A.J.W.).

**nebularia** (Gunn.)—GREENSHANK. P.M. Very rare. Recent records, one seen on Flixton Carrs, 1 May, 1941 (T.N.R.); one seen at Keld Head, Pickering, 3 Sept., 1943 (R.M.G.); at Staxton on marshy ground, two on 21 Aug., and five on 22 Aug., 1954 (A.J.W.); one at Marishes 28—31 Aug., 1954 (R.M.G.).

### CHARADRIIDAE

#### CHARADRIUS Linnaeus

**hiaticula hiaticula** L.—RINGED PLOVER. P.M. Fairly common. Small numbers seen regularly on passage along the coast. Does not breed within the district.

#### LEUCOPOLIUS Bonaparte

**alexandrinus alexandrinus** (L.)—KENTISH PLOVER. Accidental visitor. One record, two immature birds shot in Cayton Bay, 12 Sept., 1891 (W.J.C.).

#### PLUVIALIS Brisson

**apricaria apricaria** (L.)—SOUTHERN GOLDEN PLOVER. R. and W.V. Breeds sparingly on the moors. Numbers greatly increased in the autumn, probably including birds of sub-species *altifrons*, though no definite records have been made. Throughout the winter large flocks frequent the Carrs, often numbering several hundred birds.

#### SQUATAROLA Cuvier

**squatarola** (L.)—GREY PLOVER. P.M. Rare. Odd birds or small parties seen at infrequent intervals along the coast. Last record, three, Scarborough Harbour, 30 Jan., 1954 (A.J.W.).

#### EUDROMIAS Brehm

**morinellus** (L.)—DOTTEREL. P.M. Very rare. In the early part of last century large numbers were shot on the Wolds during the spring passage. Is now very rarely seen, the last record being a flock of about one hundred frequenting the Wolds near Bampton, from 11 to 18 June, 1907 (E.W.W.).

#### VANELLUS Brisson

**vanellus** (L.)—LAPWING. R. and W.V. As a resident species the numbers breeding regularly are decreasing at an alarming rate. Large flocks of immigrant birds spend the winter in the district.

#### RECURVIROSTRA Linnaeus

**avosetta** L.—AVOCET. Accidental visitor. One record, two seen near Flamborough Lighthouse for several days during April, 1893 (Nel., p. 590).

#### HAEMATOPUS Linnaeus

**ostralegus occidentalis** Neum.—BRITISH OYSTER-CATCHER. W.V. and P.M. Has increased during the past few years. May be seen along the coast in small numbers throughout the year. Does not breed within the district.

## GLAREOLIDAE

## GLAREOLA Brisson

*pratricula pratricula* (L.)—PRATINCOLE. Accidental visitor. One record, one killed on Staxton Wold, May, 1844 (Nel., p. 565).

## BURHINIDAE

## BURHINUS Illiger

*oedienemus oedienemus* (L.)—STONE-CURLEW. S.V. Nested regularly in one locality up to 1937. Odd birds still present 1938 and 1939, though breeding not proved (Hand. Brit. Birds, 1938, Vol., 4, p. 434). No records have been received since.

## OTIDIDAE

## OTIS Linnaeus

*tarda tarda* L.—GREAT BUSTARD. Very rare vagrant. At one time was common on the Wolds, becoming extinct as a resident during the early 1830's. The last record is believed to have been one seen at Foxholes during 1835 (Nel., pp. 548-557). The only known Yorkshire egg is in the Scarborough Museum.

*tetrax* L.—LITTLE BUSTARD. Very rare vagrant. Three records, the most recent being a pair at Allerston Marishes, Oct., 1886 (Nel., p. 558).

## GRUIDAE

## GRUS Pallas

*grus grus* (L.)—COMMON CRANE. One record, a juvenile bird shot at Flamborough in Feb., 1892 (Nat., 1893, p. 203).

## LARIDAE

## CHLIDONIAS Rafinesque

*niger niger* (L.)—BLACK TERN. Rare vagrant. Recorded three times, one at Scalby in 1863 (Nel., p. 655), an adult shot at Osgodby, April, 1901 (W.J.C.), and three juveniles in Jackson's Bay, Scarborough on 7 Sept., 1952 (A.J.W.).

*leucopterus* (Temm.)—WHITE-WINGED BLACK TERN. Very rare vagrant. Three records, the most recent a bird shot at Scarborough, 26 Sept., 1896 (Nel., p. 650).

## HYDROPROGNE Kaup

*caspia* (Pall.)—CASPIAN TERN. Very rare vagrant. One record, a bird shot at Filey, Sept., 1874 (Nel., p. 652).

## STERNA Linnaeus

*sandvicensis sandvicensis* Lath.—SANDWICH TERN. P.M. Common. Common along the coast during August and September, apparently as part of the spread of the species from its breeding haunts prior to the actual passage south.

*hirundo hirundo* L.—COMMON TERN. P.M. Not common. Chiefly seen during the autumn passage.

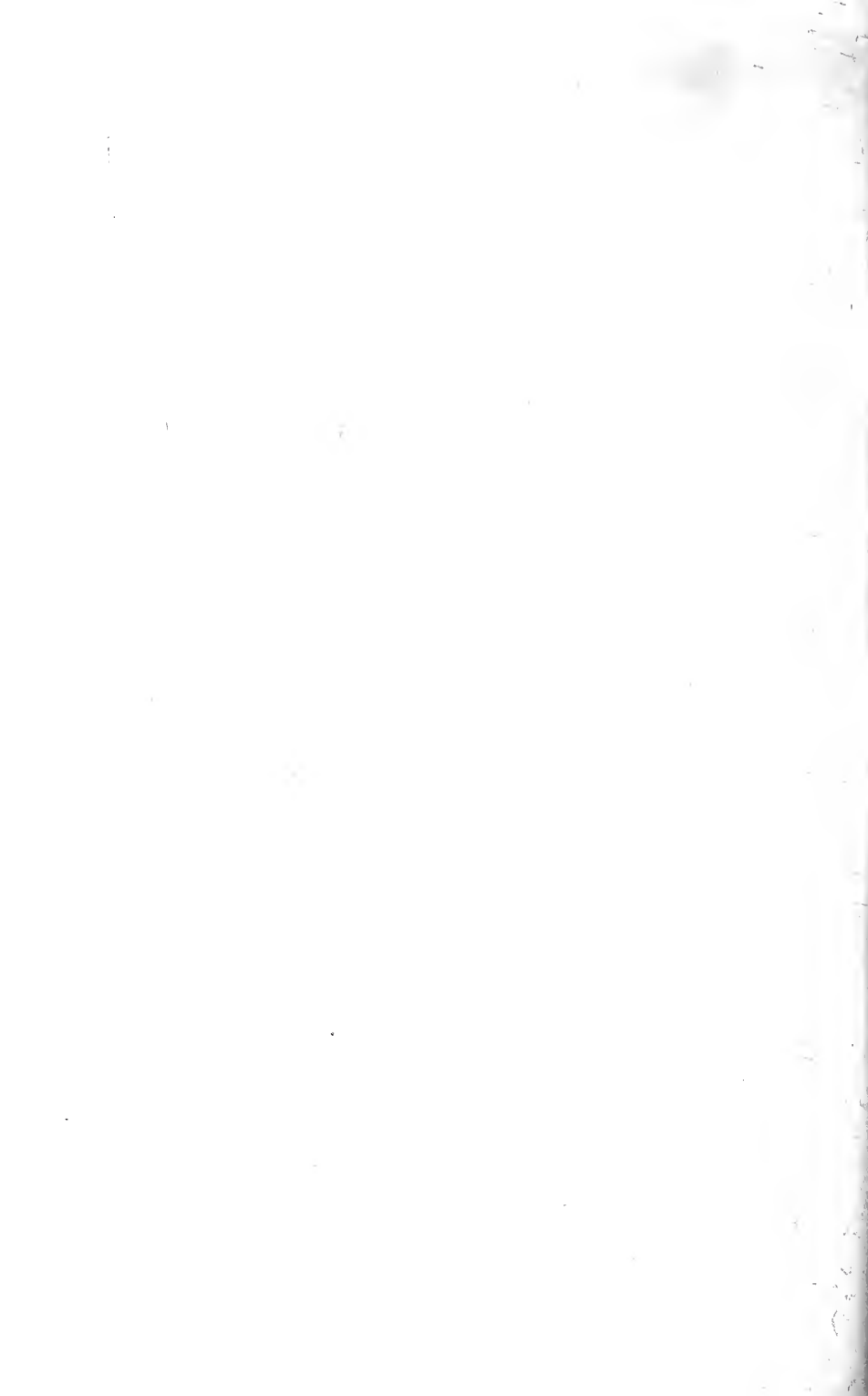
*macrura* Naum.—ARCTIC TERN. P.M. Fairly common. Can be seen regularly during August and September, prior to its passage to the south.



STONE CURLEW (*Burhinus o. oedicnemus* (L.))

Photograph : Ralph Chislett, F.R.P.S.

facing page 400



**albifrons albifrons** Pall.—LITTLE TERN. P.M. Rare. Surprisingly few records.

#### **XEMA** Leach

**sabini** (Sab.)—SABINE'S GULL. W.V. Very rare. Mainly immature birds recorded, the most recent being one shot at Scarborough, 6 Oct., 1908 (W.J.C.), an adult shot at Bempton on 10 Oct., 1910 (Yorks. Birds, p. 283), and a juvenile first seen by M. Ness at Scalby Mills, Scarborough on 4 Oct., 1952 (E.A.W. & A.J.W.).

#### **LARUS** Linnaeus

**minutus** Pall.—LITTLE GULL. W.V. Rare. Single birds recorded at irregular intervals, birds seldom staying for more than one or two days. Latest records, an immature bird at Scarborough, 1 Feb., 1947 (A.J.W.), and single adult birds in Scarborough Harbour from 5-8 Feb., 1952, and on 6 and 7, Sept., 1952 (A.J.W.).

**ridibundus ridibundus** L.—BLACK-HEADED GULL. R. and W.V. Common. Breeds at one locality in the district, though very few eggs hatch owing to the depredations of egg thieves. Numbers increased in winter by migratory birds. One recovered at Scarborough, April, 1936, had been ringed at Jinxford, Jutland, July, 1935.

**canus canus** L.—COMMON GULL. W.V. Very common. Very large flocks winter in the district, spending the daytime inland, returning each night to the coast to roost. Several recoveries have been made of birds ringed in Sweden, Finland, and on Baltic coast.

**argentatus argentatus** Pont.—HERRING GULL. R. Very common. Breeds in considerable numbers all along the cliffs, where rock faces afford suitable sites. First nested on the Castle Hill, Scarborough, in 1934. Commonly feeds inland during the winter, but seldom in as large flocks as previous species.

**fuscus graellsii** Brehm—BRITISH LESSER BLACK-BACKED GULL. P.M. Uncommon. Although the species breeds north of the district, it is rarely seen except on spring and autumn passage, and then not in any numbers. Occasionally passes inland in spring across the moors (R.M.G.).

**marinus** L.—GREAT BLACK-BACKED GULL. W.V. Common. Small flocks are seen regularly throughout the winter, and occasionally large flocks of up to three hundred birds are recorded. Of such a flock seen in Gristhorpe Bay, on 11 Oct., 1947, about half were mature (A.J.W.). Moves inland to flooded areas of the Vale of Pickering, up to fifty seen in 1944-45 (R.M.G.). Odd birds may be seen along the coast throughout the summer.

**hyperboreus** Gunn.—GLAUCOUS GULL. W.V. Not common. Immature birds recorded regularly during hard weather. Nine immature and one adult recorded on 16 Dec., 1942 (T.N.R.).

**glaucoides** Mey.—ICELAND GULL. W.V. Rare. Recorded at irregular intervals. Majority of records are of immature birds.



**RISSA** Stephens

**tridactyla tridactyla** (L.)—KITTIWAKE. R. Abundant. Large numbers breed along the whole length of the Speeton and Bempton Cliffs, their numbers having increased enormously during the past twenty years. A colony was started on the Castle Hill, Scarborough, during the war, but owing to military restrictions it is not clear in which year breeding was actually commenced. In 1948, between thirty and forty nests were counted (A.J.W.), and the colony has continued to increase. Occasional immature birds are seen during the winter months.

**PAGOPHILA** Kaup

**eburnea** (Phipps)—IVORY GULL. Vagrant. Nelson mentions five local records, the most recent being one at Flamborough on 5 April, 1904 (Nel., p. 693). There have been no records since.

## STERCORARIIDAE

**STERCORARIUS** Brisson

**skua skua** (Bruenn.)—GREAT SKUA. P.M. Rare. Infrequently recorded as migrations are made chiefly out to sea. The last record is of a bird killed by colliding with wires at Thornton-le-Dale, 14 miles from the coast, during Dec., 1932 (W.J.C., Nat., 1934, p. 20).

**pomarinus** (Temm.)—POMATORHINE SKUA. P.M. Fairly common at sea. Rarely recorded near the coast except during gales from the east. Large numbers occurred along the coast during 1879, 1880, and 1886 (Nel., p. 696 et seq.).

**parasiticus** (L.)—ARCTIC SKUA. P.M. Fairly common. Recorded irregularly along the coast.

**longicaudus** Vieill.—LONG-TAILED SKUA. P.M. Very rare. An irruption occurred along the east coast during Oct., 1879, numbers being recorded at Scarborough. Last recorded, Oct., 1889, an adult killed at Scalby Ness (Nel., pp. 706-7), and two immature birds shot and an adult seen off Flamborough in Oct., 1908 (Yorks. Birds, p. 302).

## ALCIDAE

**ALCA** Linnaeus

**torda britannica** Tic.—BRITISH RAZORBILL. R. Common. Breeds in considerable numbers on the Speeton and Bempton Cliffs.

**URIA** Brisson

**aalge aalge** (Pont.)—NORTHERN GUILLEMOT. W.V. Not uncommon. Few definite records, possibly owing to difficulty of identification.

**aalge albionis** With.—SOUTHERN GUILLEMOT. R. Common. Large numbers breed on the Speeton and Bempton Cliffs. The 1938 count of bridled birds showed a percentage of 0.8 present (Hand. Brit. Birds, 1938, Vol. 5, p. 156). A count taken during 1948 and 1949, showed no perceptible increase in this figure (A.J.W.).

[*lomvia lomvia* (L.)—BRUENNICH'S GUILLEMOT. W.V. Recorded four times between 1894 and 1902 (Nel., p. 725). The validity of these records was questioned by R. Wagstaffe, of the Yorkshire Museum, York, and, in the light of his findings, these records can no longer be accepted as correct (North Western Naturalist, Mar. and June, 1945. The Invalidity of some early Records of Bruennich's Guillemot in Britain.)]

*grylle grylle* (L.)—BLACK GUILLEMOT. W.V. Very rare. Mainly immature birds have been recorded. In 1938 a pair bred at Bempton Cliffs, being seen feeding a young one on 24 July (Nat., 1939, p. 15). Two adults, presumably the above pair, were seen at Filey on 10 Oct., 1938 (Scar. Nat. Records). One was found dead on Filey Brigg on 18 Feb., 1950 (P. A. Clancey), and one was shot near Flamborough about 29 Dec., 1950 (G. J. Brown).

#### ALLE Link

*alle alle* (L.)—LITTLE AUK. W.V. Irregular. Occurs usually in small flocks, but occasionally in large numbers, as in 1894 and 1912, when many hundreds were found along the coast in an exhausted condition. In nearly every case, when a bird was examined, no food was found in the stomach (E.A.W.). Is occasionally blown inland, a bird being picked up at Thornton-le-Dale, fourteen miles from the coast, on 19 Nov., 1942 (R.M.G.). Early dates; Scarborough, 9 and 19 Oct., 1921 (W.J.C.); Filey Brigg, 7 Nov., 1948 (A.J.W.).

#### FRATERCULA Brisson

*arctica grabae* (Brehm)—SOUTHERN PUFFIN. R. Breeds in considerable numbers on Speeton and Bempton Cliffs, chiefly on the more grassy slopes near the foot of the cliffs. Is rarely seen except during the breeding season.

### Order RALLIFORMES

#### RALLIDAE

#### CREX Bechstein

*crex* (L.)—CORN-CRAKE. S.V. Very rare. At the beginning of the century a common and regular breeding species throughout the cultivated parts of the district. Has declined rapidly, and by 1930 was considered rare. Only scattered birds recorded since 1935, and no records have been received since 1942, except one heard calling on 12 May, 1949 at Scarborough and one at Seamer during May, 1951 (A.J.W.).

#### PORZANA Vieillot

*porzana* (L.)—SPOTTED CRAKE. P.M. and S.M. Very rare. Infrequently recorded. Since 1897, recorded three times; one caught alive at Scarborough, 2 Nov., 1897 (W.J.C.); an adult male found dead in Holbeck Gardens, Scarborough, 14 Nov., 1906 (W.J.C.); and one dead near Scarborough Mere, 15 May, 1930 (T.N.R.).



*parva* (Scop.)—LITTLE CRAKE. Vagrant. One record, one caught near Scarborough in 1836 (Nel., p. 538).

#### **RALLUS** Linnaeus

*aquaticus aquaticus* L.—WATER-RAIL. R. and W.V. Rare. Probably occurs regularly, though not always recorded. Only breeding record is a pair which nested near Scalby during 1936-7-8 (T.N.R.). At least three spent the winter of 1946-7 at Scarborough Mere (A.J.W.). Seen during the winter months each year at Keld Head, Pickering (R.M.G.).

#### **GALLINULA** Brisson

*chloropus chloropus* (L.)—MOORHEN. R. Abundant.

#### **FULICA** Linnaeus

*atra atra* L.—COOT. R. and W.V. Not common. Numbers fluctuate, some years many visiting the district during the winter months. Has been known to breed at Scarborough and Throxenby Meres, though the sites are often deserted for many years at a time.

### **Order GALLIFORMES**

#### **TETRAONIDAE**

#### **LAGOPUS** Brisson

*scoticus scoticus* (Lath.)—BRITISH RED GROUSE. R. Rare. At one time common. Has been driven from many of its old haunts by afforestation of moorland areas. Is now met with only in scattered localities.

#### **PHASIANIDAE**

#### **PHASIANUS** Linnaeus

*colchicus* L.—PHEASANT. R. Common. Has decreased in numbers during recent years, possibly owing to lack of protection.

#### **PERDIX** Brisson

*perdix perdix* (L.)—COMMON PARTRIDGE. R. Very common. Generally distributed, being particularly common on the Wolds.

#### **ALECTORIS** Kaup

*rufa rufa* (L.)—RED-LEGGED PARTRIDGE. R. Common. Has increased considerably during the last fifty years. More frequent on the Wolds than in the north of the district.

#### **COTURNIX** Bonnaterre

*coturnix coturnix* (L.)—QUAIL. S. V. Rare. Is reported as breeding on the Wolds each year, and occasionally from cultivated parts of the Vale of Pickering.

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# MAMMALS

F. C. Rimington

Of the 76 species of mammals given in the List of British Vertebrates, British Museum (Natural History), 1935, excluding island forms, 45 have been recorded from the Scarborough district.

Within historical times several other species flourished. It is generally stated that the wolf became extinct in England about the end of the 15th century, but there is a tradition that this animal lingered on in the Yorkshire Wolds. Blaine, in his Encyclopaedia of Rural Sports, 1858, p. 105, says that in the parish books of Flixton and Folkton are still to be seen memoranda of payments made for the destruction of wolves which used to breed in the bogs and rushes on the carrs below the villages, coming up at night to destroy great numbers of sheep. Unfortunately such entries in the parish registers can no longer be traced. In Richard II's reign wolves must have been fairly common in the district for in the account rolls of Whitby Abbey for 1394-6 is the following entry of a payment for the dressing of wolf-skins:—

*Pro tewing xiiii pellium luporum .... 10s. ix d.*

In Farrer's "Early Yorkshire Charters", Vol. II, pp. 468-9, referring to Cal. Pat. Rolls, 1446-52, is a writ of 1448 confirming the foundation in the reign of King Athelstan of the Hospital of St. Mary and St. Andrew at Flixton, for the safety of travellers so that they should not be devoured by wolves and other wild beasts in the woods at that time, i.e., 10th cent. There is no mention in the writ of wolves existing there in 1448, the only dangers mentioned being "waters, bogs and marshes". This hospital was popularly called "Carmanspital", possibly a variant of Carlandspital (being built near the carrs, drained peaty land) to distinguish it from the nearby hospital of St. Mary at Staxton. Remains of the Flixton hospital can be seen in a field near Park House and its position is indicated as a short bank on the O.S. 6-in. map, just north of the village. According to Hinderwell (History of Scarborough, 1811, p. 263) there was a parcel of land in this vicinity called "Wolfland", but the name is no longer in use.

Although the remains of the brown bear have been found elsewhere in the North Riding (Harting, Extinct British Animals, 1880, p. 13) dating probably from Roman times, there are no reliable records for this animal in our area. An interesting list is contained in "A Booke of all the oulde Customes used in Pickering lithe time oute memorie and contened to this daie", Gawaine Bebington, 1622. He catalogues "Beastes of the Forrest, Harte, Hare, Beare, Wolffe; Beastes of the chaise, Bucke, Roe, Fox, Mottrom (Marten?); Beastes of warraint, Hare, Cony; Fowles of warraint, Phessant, Partridg." One suspects this is a list of animals that Bebington considered should exist in a forest worthy of the name rather than an actual record of species to be found in Pickering Forest.

There are very scant records of the wild boar in the Pickering Coucher Book (14th cent.). It contains innumerable instances of the poaching of red, fallow and roe deer and the hare, but no mention of the taking of the boar. In 1306 it is recorded that the Abbot of St. Mary's, York, holds in fee the office of forester on Blakey Moor, and can take all animals excepting the hart, hind, hawk and boar, "which the king's ancestors reserved for themselves and their heirs" (Inq. P.M. 34, Edw. I, No. 162). In 1227, Henry III, writing from Stamford, instructed his huntsmen, Master Guy and John the Fool, to take 20 hinds and 10 pigs for the king's use from his forest of Pickering (N.R.R.S.N.S., Vol. 2, p. 219). This reference to pigs (*porcos* in the original Latin) may refer to the wild boar or, less likely, to the domestic pig, numbers of which were kept in the forest. It is clear that the wild boar was not a common animal.

As late as the 17th century it is recorded (N.R.R.S.N.S., Vol. 2, p. 7) that a ranger received from Scalby and other townships adjoining the moors, half a peck of oats annually per oxgang of land for protecting the poultry against the fox; later the status of this animal had become so precarious that artificial breeding places of brick and drain-pipe were constructed by the hunts on the Wolds, to the eventual confusion of the archaeologist.

The breeding and trapping of rabbits in large warrens was part of the common farming practice in the 18th and early 19th centuries. Tuke (*Agriculture of the North Riding*, 1800, p. 283) mentions a warren recently planted at Lockton containing between 4 and 5 hundred acres, and two others, somewhat larger, at High and Low Dalby, these latter the property of the Duchy of Lancaster. Marshall (*Rural Economy of Yorkshire*, 1788, pp. 232 and 261) considers the rabbit to be "a species of stock nearly three times as valuable as either cattle or sheep". He describes a warren in this district containing 1,800 acres, worth for the purpose of husbandry one shilling per acre, but let as a rabbit warren for £300 per year. Marshall describes in detail the working of rabbit warrens at Coldham (Cottam?) on the Wolds, where "three or four thousand acres of tolerably good land are appropriated principally to rabbits, a circumstance which it would be difficult to equal". When parts of the warren became mossy they were enclosed by a turf wall topped with furze, the surface pared and burnt and the soil broken up for arable crops. Having afforded a succession of corn and turnips the ground was sown with grass and again thrown open to the rabbits. To encourage the animals artificial burrows were bored with an auger and if the soil was thin, loads of earth were brought in from elsewhere and stacked into mounds.

The species bred in these warrens was at first the common grey, but later silver-haired strains were introduced into most warrens. These silver skins were dressed as fur and exported to the East Indies and to China "there to be worn by the principal people". The rabbits were taken in "type-traps", the remains of many of which may still be found on the moors. The type consisted of a pit 5 or 6 feet deep and



lined with stone. It was covered with a floor with a balanced trap-door in the middle ; it was baited with turnips and the trapdoor fastened for several nights. Then it would be loosened and the rabbits taken. Marshall says that 5 or 6 hundred couples were frequently taken at one time, and when two Wold warrens lay together there was once an instance of 1,500 couples being killed at one taking.

It is significant that in the very extensive documents concerning the Forest of Pickering in the 14th, 15th and 16th centuries, there is no mention of the rabbit. All other animals that could be expected to live in a medieval forest are dealt with in detail and the absence of references to the rabbit implies that this animal did not then exist in the forest, which stretched from the River Seven to the sea and which included villages, cultivated land, heaths and moors as well as woodlands.

The chief animals in the forest were of course the deer, red, fallow and roe. The fallow deer were confined to the park of Blansby to the north of Pickering. In the Duchy of Lancaster records (N.R.R.S.N.S., Vol. 1, p. 198) it is said that there were between 400 and 500 fallow deer in the park in 1503. In the mid-16th century there were some 600 deer at Blansby, including 77 bucks (N.R.R.S.N.S., Vol. 1, p. 212), but in a survey of the forest in 1608 it is stated that the stone wall of Blansby Park is decayed in many places and only about 100 deer are left. Later, Norden's Survey of Pickering Forest, 1619-21, reports that the park had recently been replenished with fallow deer, but being unconfined because of the broken wall, they ranged over the adjacent fields (N.R.R.S.N.S., Vol. 1, p. 13).

The different names given in the forest records to deer of various age are of interest :

## RED DEER

## FALLOW DEER

	HART	HIND	BUCK	DOE
1st year	Calf	Hind Calf	Fawn	Fawn
2nd "	Knobber or Brocket	Hearse or Hyrsel	Pricket	Teg
3rd "	Spayard	Hind	Sorrel	Doe
4th "	Staggart	"	Soar	"
5th "	Stag	"	Buck of 1st Head	"
6th "	Hart of 1st Head	"	Buck of Great Head	"
7th "	Hart of Great Head	"		

In medieval times poaching appears to have been a most popular pastime among all classes. Clerics of high degree, local nobility, yeomen, townsmen and vagrants were regularly indicted for poaching, the red deer being the principal victim. The Duchy of Lancaster records (N.R.R.S., all vols.) show the penalties varied from a fine of 6d. to outlawry ; indeed so very many were outlawed that one doubts the seriousness of the sentence, in many cases the fine appears to be the more serious. Thus on July 4th, 1307, John Humet, John Woodcock,



Thomas Gnatel (a confirmed poacher in trouble before), William Rufait, Roger Heywood, William Cooper, of Scarborough and Roger his lad, were caught taking a stag at Ellerbeck with bows and arrows and six greyhounds. Gnatel as an old offender was fined 6/8, Woodcock was fined 5/-, the rest were outlawed ! (N.R.R.S.N.S., Vol 2, p. 80).

At the Assizes of the Forest held at Pickering in 1334 it was stated that during the few years that Richard Skelton had been keeper of Pickering Castle 180 harts and 200 hinds had been taken irregularly, 18 harts and 24 hinds had been delivered to the Abbot of St. Mary's as tithe and 200 harts and 300 hinds had died of the murrain (N.R.R.S.N.S., Vol. 2, p. 138). In an enquiry into the state of Pickering Forest in 1503 it was recorded that between 200 and 300 red deer were to be found within the forest. To test these numbers the examiners took 8 people with them and suddenly went into the woods. Within two hours 7 or 8 score of red deer were seen (Vol. 1, p. 198). Another survey in the mid-16th century (Vol. 1, p. 212) says " the remanent of the reade deare are vewed to be CCLXIII, whereof mayle deare LIIII ". By 1608 the number appears to have fallen to 15 or 16 stags only and Norden's Survey of 1619-21 records that there are but few red deer left, confined to Newton Dale and to Sir Thomas Posthumus Hoby's woods at Hackness, perhaps one deer for every 5,000 sheep.

The roe deer seems to have been less common ; quite a number were poached and they were sometimes caught in nets (Vol. 3, p. 225). In 1340 Henry de Percy, Lord of the Manor of Seamer, claimed the right to take and chase roe deer within the limits of the forest (Vol. 3, p. 164).

There are many references to dogs in the forest records. Only mastiffs and cur-dogs could be kept in the forest and they must be lawed or maimed. A special claim had to be made to keep greyhounds or spaniels (N.R.R.S.N.S., Vol. 1, p. XXXIII). Manwood in his Treatise on Forest Law, Chap. XVI, describes the operation of lawing. " The mastive being brought to set one of the forefeet upon a piece of wood eight inches thick and a foot square, then one with a mallet setting a chissell of two inches broad upon three claws of the forefeet at one blow doth smite them clean off." The fine for keeping an un-lawed dog in the forest was 3/- and when in 1335 the Prior of Bridlington was indicted for keeping un-lawed dogs at Scalby, he successfully pleaded the right of the Holy Church to be free of the need to law its hunting dogs (Vol. 3, p. 6). In 1327 there were 135 dogs in the forest, mostly mastiffs and greyhounds hunting by sight and *braches* or running-hounds hunting by scent, the latter somewhat resembling a very heavy foxhound of to-day (Vol. 2, p. XL).

The last recorded specimen of wild cat in Yorkshire was trapped at Marton, near Hawnby in the Hambleton Hills in 1840, but this animal appears to have been quite common in the Pickering Forest. Many records exist of the granting of permission for its hunting, e.g.,

Roger Hardy of Scarborough was allowed to hunt with his hounds for hare, fox, badger and wild cat (Pat. Rolls. 37 Hen. III, m. 10).

The marten was, at the beginning of the present century, a comparative rarity in Britain. Its near-extirpation, as was the case with many other carnivores, was due to its pelt being of considerable value as fur, and to the fact that such animals have for long been regarded as "vermin". Church Wardens' accounts of the 17th and 18th centuries, contain many entries of payments made for the destruction of various species of carnivores. Fortunately, however, the plantation policy of the Forestry Commissioners has provided many new and varied habitats where such rarities as the marten and the polecat may be encouraged to breed.

There was at one time a herd of wild white cattle at Burton Constable. They differed from those at Chillingham in being larger and in having black ears, muzzles and tail-tips instead of red. They had become extinct by 1790 (Harting, *Extinct British Animals*, p. 228).

Many of our mammals have local names: the hedgehog "Pricky-back Otchin", the stoat "Clubster", the weazel "Reazel", the shrew "Blind Mouse", the brown rat "Ratten", the porpoise "Sea-Pig", the white-backed dolphin "Ascus", the white-sided dolphin "Scoutler", the bat "Black-beeraway". The children of Ayton used to sing this charm:—

"Black black-beeraway,  
Fly my ear away,  
When we bake we'll give you a cake,  
When we wash we'll give you a shirt" (E.A.W.).

#### Abbreviations:—

M.B.—M. Bailey

R.B.C.—R. Barrington-Cooke

W.J.C.—W. J. Clarke

J.C.—J. Cooper

R.M.G.—R. M. Garnett

E.F.G.—E. F. Gilmour

O.G.—Oxley Grabham

G.K.G.—G. K. Green

C.D.H.—C. D. Head

J.S.H.—J. S. Hicks

K.H.—K. Horsefield

T.H-P.—T. Hyde-Parker

E.P.—E. Percival

E.J.R.—E. J. Rimington

T.R.—T. Roberts

P.T.—P. Tissiman

E.A.W.—E. A. Wallis

G.G.W.—G. G. Watson

B.M.—The British Museum (Natural History).

Nat.—The Naturalist.

N.R.R.S.N.S.—The North Riding Record Society Volumes, new series.

V.C.H.—The Victoria County History, Yorkshire.

Square brackets imply that the record occurred just outside our area.

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## MAMMALIA

The nomenclature is that of the "List of British Vertebrates", British Museum (Natural History), 1935; the classification follows that of the "List of British Mammals", British Museum (Natural History), 1952.

## INSECTIVORA

**TALPA** Linnaeus

**europaea** L.—Common Mole. Common in many districts but not usually on the moors; unusually abundant in 1938. Specimens of uniformly cream colour taken at Staintondale (W.J.C., 1903).

**SOREX** Linnaeus

**araneus castaneus** Jen.—Common Shrew. Generally distributed and common.

**minutus** L.—Pigmy Shrew. Records in most years, probably not uncommon.

**NEOMYS** Kaup

**fodiens bicolor** (Shaw)—Water Shrew. Generally distributed but not common.

**ERINACEUS** Linnaeus

**europaeus** L.—Hedgehog. Generally distributed and common. Many records of albino varieties.

## CHIROPTERA

**MYOTIS** Kaup

**mystacinus** (Kuhl)—Whiskered Bat. Uncommon; Staxton (C.D.H., 1891); Scarborough (O.G., 1903); Scarborough Mere (W.J.C., 1924); Wood End Museum, Scarborough (E.F.G., 1950).

**nattereri** (Kuhl)—Natterer's Bat. Odd specimens taken at Thornton-le-Dale (V.C.H.).

**daubentonii** (Kuhl)—Daubenton's Bat. Only one record, a female found dead at Scarborough Mere, 29 April, 1953 (G.G.W.).

**PIPISTRELLUS** Kaup

**pipistrellus** (Schreb.)—Pipistrelle. Common and widely distributed. One taken at Scarborough in 1928 proved to be the largest ever measured by the B.M. staff. Its forearm was 32.5mm., and on its skin were a number of ticks new to Yorkshire.

**NYCTALUS** Bowdich

**noctula** (Schreb.)—Noctule or Great Bat. Fairly common at Thornton-le-Dale (R.M.G., 1943). Formerly not uncommon at Scarborough (W.J.C.), but not seen for many years until 1948 when one was recorded at Throxenby Mere (E.J.R.).

**PLECOTUS** Geoffroy

**auritus** (L.)—Long-Eared Bat. Generally distributed and fairly common (W.J.C., 1897), no subsequent records until 1951, when three specimens were recorded at Cropton, just outside our area (E.F.G.).

Although some miles outside our area, it is informative to note that Mr. Adam Gordon of Helmsley has taken the following bats in Duncombe Park :—

*Rhinolophus hipposideros minutus* (Mont.)—Lesser Horseshoe. Occasional.

*Myotis mystacinus* (Kuhl)—Whiskered. Local.

*M. nattereri* (Kuhl)—Natterer's. Local.

*M. daubentonii* (Kuhl)—Daubenton's. Local.

*Pipistrellus pipistrellus* (Schreb.)—Pipistrelle. Common.

*Nyctalus noctula* (Schreb.)—Noctule. Two colonies.

*Plecotus auritus* (L.)—Long-Eared. Common.

*Barbastella barbastellus* (Schreb.)—Barbastelle. Common and readily taken.

## CARNIVORA

### VULPES Oken

*vulpes crucigera* (Bechst.)—Fox. Common, particularly on the cliffs. Occasionally breeds on the Castle Holmes. Melanistic strains not uncommon on the Wolds (J.S.H.).

### MELES Brisson

*meles meles* (L.)—Badger. Quite common, despite persecution. breeds within  $1\frac{1}{2}$  miles of Scarborough Station. In 1931 one was captured in the centre of the town. In a recent survey of the Cloughton area over 40 sets were found, many either occupied or in use as travelling sets. Badgers abound in Allerston Forest, there being 15 sets in one part of Gandale alone. They are considered beneficial to the forest economy and are allowed to pass through special badger-gates in the rabbit-proof fences, wooden doors hinged at the top and weighted at the bottom, which a badger can push open but a rabbit cannot (G.K.G.).

### LUTRA Brisson

*lutra* (L.)—Otter. Occasional in River Derwent and larger becks. Lindhead Beck, Scalby (E.J.R., 1947). One visited Peasholm Glen more than once in 1945, eating all the goldfish in the pond. Scarborough Mere, 1948 (E.F.G.).

### MARTES Pinel

*martes martes* (L.)—Pine Marten. Very rare; Levisham (Nat., 1921); Everley (K.H., 1925).

### MUSTELA Linnaeus

*erminea stabilis* Barr.—Ham.—Stoat. Common.

*nivalis nivalis* L.—Weasel. Fairly common.

*putorius putorius* L.—Polecat. Rare; Seamer Carrs (W.J.C., 1894); Fylingdales (Nat., 1903); Killerby Hall (J.C., 1939). Five seen Jugger Howe Beck, 25th and 26th June, 1887. (R.B.C., Field, 1887). In the past many ferrets (*Putorius furo*) have escaped from captivity and interbred with wild polecats. Man has even crossed his ferrets with polecats, producing the coloured "polecat-ferrets", which by pelage colour, size and ferocity could readily be mistaken for the pure-bred polecat.





BADGER (*Meles m. meles* (L.)) Troutdale

Photograph : W. Parkinson



## PINNIPEDIA

**HALICHOERUS** Nilsson

**grypus** (Fabr.)—Grey Seal. Rare ; Filey Brigg, 1927, male, exhibited alive at Filey for some years. Young male, washed ashore at Cayton Bay, Aug., 1953, preserved and exhibited at Wood End Museum. [Saltwick Bay (T.R., 1913)].

**PHOCA** Linnaeus

**vitulina** L.—Common Seal. Not uncommon along the coast, occasionally in the harbour.

## LAGOMORPHA

**ORYCTOLAGUS** Lilljeborg

**cuniculus** (L.)—Rabbit. Very variable ; abundant in some years, scarce in 1932, 1933, 1937, owing to disease. In 1954 *Myxomatosis* reached the Scarborough area and by the summer of 1955 the rabbit appeared to have been virtually exterminated.

**LEPUS** Linnaeus

**europaeus occidentalis** de Wint.—Brown Hare. Generally distributed on cultivated ground. So scarce during the years 1937-41 that many of the usual coursing meetings were abandoned.

## RODENTIA

**MUSCARDINUS** Kaup

**avellanarius** (L.)—Dormouse. Very rare ; Raincliffe Woods and Langdale End (W.J.C., 1897) ; Barns Cliff (P.T., 1898).

**CLETHRIONOMYS** Tilesius

**glareolus britannicus** (Mill.)—Bank Vole. Less common than the Short-Tailed Vole, but not rare in Raincliffe Wood and in hedgerows throughout the district (W.J.C.).

**ARVICOLA** Lacépède

**amphibius amphibius** (L.)—Water Vole. Common in suitable situations. Black variety, Cayton Bay (W.J.C.).

**MICROTUS** Schrenk

**agrestis hirtus** (Bell.)—Short-Tailed Vole. Normally plentiful ; very scarce in 1931-35, but in 1937-38 so numerous at Ebberston that many Short-Eared Owls gathered to feed on them.

**APODEMUS** Kaup

**sylvaticus sylvaticus** (L.)—Long-Tailed Field Mouse. Generally distributed and common.

**RATTUS** Fitzinger

**rattus** (L.)—Black Rat. Rare before 1900 but then quickly became the dominant rat at the harbour. Less common since 1937 owing to extensive poisoning (W.J.C.)

**norvegicus** (Erxl.)—Brown Rat. Common almost everywhere, less so at the harbour.

**MUS** Linnaeus

**musculus** L.—House Mouse. Very common.



**SCIURUS** Linnaeus

**vulgaris leucourus** Kerr—Red Squirrel. Recorded in 1897 as "Generally distributed but decreasing in numbers." No further records until 1927, but subsequently a few were seen for several years. In 1942 a small colony was reported in Harwood Dale in company with Grey Squirrels (W.J.C.).

**carolinensis** Gmel.—Grey Squirrel. W. H. St. Quentin brought thirty-six from Woburn, Beds., to Scampston, in June, 1906. Within a few months they had wandered four miles and one was killed at Pickering (Nat., 1907). Appeared at Hackness "prior to 1929" (W.J.C.), since then common in all suitable localities, even appearing in the centre of the town.

## UNGULATA

**CERVUS** Linnaeus

**elaphus** L.—Red Deer. A number have established themselves recently in the conifer forests north of Allerston. Stags, hinds and calves have all been observed, the largest number seen at one time being two hinds and one calf (1950). As presumably these deer have escaped from Duncombe Park, Helmsley, they may not be sub-species **scoticus**, our true wild Red Deer, but descended from imported, larger races.

**DAMA** Hamilton Smith

**dama** (L.)—Fallow Deer. Five or six, presumed escapes, have become established in the Allerston Forest (G.K.G.).

**CAPREOLUS** Gray

**capreolus thotti** Loennb.—Roe Deer. Established and increasing in the Allerston Forest. Generally these and the other species of deer do little damage to the growing trees and they are tolerated by the foresters (G.K.G.).

## CETACEA

Dr. F. C. Fraser

The animals included in the order Cetacea are perhaps the most interesting, certainly they are the most specialized of any of the Mammalia but nevertheless they are less well known than might be expected. Although even the smallest of them is large in size compared with the generality of say, rodents, yet their mode of life makes them difficult of observation. Most of their existence is spent under water except, of course, for the periodical visits they have to make to the surface to breathe. But even then all that is usually seen is a fleeting glimpse of the top of the head or the dorsal fin and perhaps the tail flukes. Yet the cetaceans are now known, from living specimens kept in captivity, to have a high standard of intelligence, one authority rating it as between that of the dog and the chimpanzee. They are naturally playful, vigorous creatures capable of intercommunication by the

emission of various sounds which are picked up by the highly specialized ears of their fellows. In their external modification of form to fit them to their aquatic environment as well as in the profound specialization of their internal anatomy the cetaceans merit and reward any study that can be devoted to them.

Existing knowledge about cetaceans frequenting British waters is based very largely on specimens stranded on our shores and although it must be admitted that the information obtained from such a source is gravely deficient in many respects, still certain generalizations can be made by considering the systematic records which have been kept since 1913. For instance in the Scarborough area the absence of the abundantly occurring Common Dolphin fits in with what is known of its distribution round the coast, it being almost entirely concentrated in the waters adjacent to the southern and western parts of the British Isles. The absence of Risso's Dolphin and the single record of the Bottlenosed Dolphin can be explained similarly.

Of the species represented in the Scarborough fauna the Sperm Whale is noteworthy from the point of view that few of this kind of whale have been recorded on the coasts, and all of them, like the Bridlington specimen, have been males. It is recognised that this species normally frequents warmer oceanic waters and that only the unattached bulls migrate to higher latitudes both north and south.

The Whitesided Dolphin is not a commonly occurring species anywhere on our coast while the Whitebeaked Dolphin is a characteristic element of the North Sea fauna. The latter species rarely extends into the English Channel or on the West Coast beyond the southern limit of Scotland. Both species are in fact boreal dolphins that have their main concentration to the north of the British Isles.

#### **BALAENOPTERA** Lacépède

**physalus** (L.)—Fin Whale or Common Rorqual. Occasionally washed ashore. Cloughton Wyke, Mar., 1910, female, 51-ft.; Sept., 1910, female, 69-ft.; Scarborough North Bay, Sept., 1921, immature, 27-ft. (W.J.C.).

**acutorostrata** Lacépède—Lesser Rorqual. Occasionally washed ashore. Scalby Ness, Nov., 1907, female, 30-ft., with foetus; Flamborough, Mar., 1929, small specimen stranded alive, escaped with rising tide (Det. B.M. from photographs); Robin Hood's Bay, May, 1936; Flamborough, March, 1939 (B.M.).

#### **PHYSETER** Linnaeus

**catodon** L.—Sperm Whale. Very rare visitor. [Bridlington Bay, male, Jan., 1937. Skeleton in B.M. (Nat., 1937).]

#### **HYPEROODON** Lacépède

**ampullatus** (Forst.)—Bottlenosed Whale. Only record, Flamborough, Mar., 1888 (M.B., Nat., 1888).

#### **DELPHINAPTERUS** Lacépède

**leucas** (Pall.)—White Whale or Beluga. Rare; off Scarborough Spa, 1903 (Nat., 1903 and 1904) (W.J.C.).

**PHOCAENA** Cuvier

**phocoena** (L.)—Common Porpoise. Frequent in small parties, usually in summer.

**ORCINUS** Fitzinger

**orca** (L.)—Killer or Grampus. Occasional ; Filey Brigg, Aug., 1903, (W.J.C.) ; Scarborough, Nov., 1927, Aug., 1937 (Det. B.M.)

**LAGENORHYNCHUS** Gray

**albirostris** (Gray)—Whitebeaked Dolphin. Occasionally taken in the nets. Staintondale, April, 1919, male (E.P.) ; Robin Hood's Bay, June, 1928, female (Det. B.M.) ; Scarborough, Aug., 1938, 1937 (two records), July, 1939, Aug., 1939; Burniston, Oct., 1952 (B.M.).

**acutus** (Gray)—Whitesided Dolphin. Occasionally taken by local boats, but it is exceptional to find it as far south as Scarborough. Cayton Bay, Feb., 1930 (Det. B.M.) ; Scarborough, Sept., 1933, July, 1934 (W.J.C.)

**TURSIOPS** Gervais

**truncatus** (Mont.)—Bottlenosed Dolphin. Only record Filey, July, 1933, caught in salmon nets (T.H.P., teste B.M.).

# THE MAMMALS OF PLEISTOCENE AND PREHISTORIC TIMES

J. G. RUTTER

The comparative paucity of our present-day mammalian fauna is in contrast to the remarkable range of animals inhabiting Britain during the Pleistocene or Great Ice Age which terminated about 10,000 years ago. Since that date a progressive decline in the number of species, particularly of the larger animals, has been largely the result of climatic changes and the activities of man. In the faunal list which follows these introductory paragraphs are records of those species known to have frequented the Scarborough region in the Pleistocene and post-Pleistocene periods down to the Roman conquest in the 1st Century A.D. The Scarborough District as defined in Volume I (p. 1) of this work is a purely artificial division and for the purpose of this chapter it is considered necessary to incorporate the records from a few sites, such as those of Kirkdale and Sewerby, which lie a little beyond this area.

The fauna of the Early Pleistocene, characteristic of the Norfolk Forest Bed, is not represented in Yorkshire but a number of valuable discoveries have produced animal remains of the Middle and Upper Pleistocene. These include the famous hyæna-den of Kirkdale, eight miles west of Pickering, and the deposits at Sewerby, near Bridlington. The former site, a cavern in the Coralline Oolite discovered in 1821, was the scene of Dean Buckland's famous excavations (Buckland 1823, pp. 1-51). Summarised accounts of Kirkdale Cave have been given by a number of authors (including Dawkins 1874, pp. 279-84; Lydekker 1907, pp. 99-100; Kendall & Wroot 1924, pp. 567-80; North 1942) and the faunal remains, many of which have been reidentified and described on a number of occasions (Owen 1846; Lydekker 1885-87; Woodward and Sherborn 1890; Reynolds 1902), are scattered among various museums. Unfortunately the absence of human artefacts and the unsatisfactory stratigraphy renders a close dating of the Kirkdale specimens impossible, although the presence of such "warm" or interglacial species as the Straight-tusked Elephant and Hippopotamus and the "cold" or glacial forms such as the Mammoth and Reindeer establishes the existence of at least two distinct assemblages. Other animals present in the cave deposits included the Hyæna, Lion, Cave Bear, Brown Bear, Woolly Rhinoceros, Slender-nosed Rhinoceros, Giant Deer, Horse and Wild Ox.

At Sewerby, near Bridlington, deposits overlying the fragment of the Pleistocene shore-line described as the "Pre-Glacial Raised Beach" and probably forming part of the "Patella Beach" of south and south-west Britain has also produced species typical of the Middle Pleistocene. These include the Straight-tusked Elephant, Hippopotamus, Slender-nosed Rhinoceros and Hyæna. The precise position of this ancient shore-line within the Pleistocene is rather

uncertain although it is undoubtedly much earlier than the last glaciation of this area. The Sewerby section was investigated by G. W. Lamplugh in 1887-88 and the mammalian remains were verified by E. T. Newton (Lamplugh 1888 and 1891).

The most important collection of Mesolithic fauna in Britain was made during the excavation of a Maglemosian settlement (dated about 7500 B.C.) at Star Carr, Seamer, by Dr. J. G. D. Clark in 1949-51. The animal remains, which included the Elk, Red Deer, Roe Deer, Wild Ox, Wolf and Beaver, were identified by Dr. F. C. Fraser and Miss J. E. King of the British Museum (Natural History) (see Clark 1949 & 1950). Dr. Fraser also determined the faunal material from the nearby sites of late Upper Pleistocene and Mesolithic date excavated by J. W. Moore on Flixton Carr.

From Neolithic times (*circa* 2000 B.C.) the animal remains from archaeological sites are chiefly of domestic species although the Wild Boar and Red Deer still form important components. Records for the Neolithic and Bronze Ages are principally from burial mounds (Bateman 1861; Greenwell 1877 & 1890; Mortimer 1905) but the excavation of several settlements of Early Iron Age date has produced some interesting lists of mammals for the closing phase of prehistoric times. The Castle Hill, Scarborough, Iron Age "A" village (dated about 500-400 B.C.) excavated by F. G. Simpson in 1921-25, provided a fairly extensive collection of animal remains, which have been identified by Dr. J. W. Jackson (Rowntree 1931, p. 404 & Jackson 1950). Two Iron Age settlements, which appear to have remained in occupation into Roman times, have been excavated at Costa Beck and Thornton-le-Dale, both near Pickering. The former was first investigated in 1893 by J. Mitchelson (see Duncombe 1899) and later by Dr. J. L. Kirk, who also excavated the Thornton-le-Dale site. The fauna from Dr. Kirk's work was examined by Miss D. M. A. Bate of the British Museum (Natural History) (Bate 1931).

## INSECTIVORA

### HEDGEHOG

#### *Erinaceus europæus* L.

Mesolithic : Star Carr, Seamer. Scarce (BMNH).

## CARNIVORA

### WOLF

#### *Canis lupus* L.

Present in Britain from the Pleistocene to Mediæval times.

Pleistocene : Kirkdale Cave. Tooth figured by Young 1822, plate XVII, fig. 2; Buckland 1823, plate 13, fig. 5.

Mesolithic : Star Carr, Seamer. Scarce (BMNH).

Bronze Age : A Late Bronze Age socketed axe was found with broken skull of wolf on Wolds near Scampston (Bateman 1861, p. 220).

Early Iron Age : Costa Beck settlement, near Pickering (Duncombe 1899).

## DOG

**Canis familiaris** L.

A domestic species possibly introduced in Mesolithic Age but certainly present in Neolithic times.

Bronze Age : Present in a number of barrows. Skull found buried with child's skeleton in Barrow 75, Garton Slack, E.R. (Mortimer 1905, p. 224).

Early Iron Age : Castle Hill, Scarborough. Scarce (SM).  
Costa Beck, near Pickering. Probably "Dog" (Bate 1931).  
Thornton-le-Dale (Bate 1931).

## COMMON FOX

**Vulpes vulpes** (L.)

Pleistocene : Kirkdale Cave. Remains figured by Buckland 1823, plates 6 & 10 (BMNH; SM).

Mesolithic : Star Carr, Seamer. Scarce (BMNH).

Neolithic : Barrow 273, Howe Hill, Duggleby, E.R. (Mortimer 1905, p. 40).

Bronze Age : Remains of "Dog or Fox" from a number of barrows on the Wolds (Mortimer 1905).

Early Iron Age : Costa Beck settlement (Duncombe 1899).

## BROWN BEAR

**Ursus arctos** L.

A Pleistocene species which survived in Britain until historical times.

Pleistocene : Kirkdale Cave.  
Bridlington (Sheppard 1904) (HM).

## CAVE BEAR

**Ursus spelæus** Rosenmueller

Pleistocene : Kirkdale Cave. Tooth figured (as "Bear, apparently **Ursus spelæus**") by Buckland 1823, plate 6, fig. 1 (HMG).

## STOAT

**Mustela erminea** L.

Pleistocene : Kirkdale Cave. Remains figured (as "Weasel") by Buckland 1823, plate 6, figs. 28, 29, plate 23, figs. 11-13.

## WEASEL

**Mustela nivalis** L.

Bronze Age : Gristhorpe Barrow. Calcined bones, probably weasel, found in oak-trunk coffin (Williamson 1872, p. 15) (SM).

## MARTEN

**Martes** sp.

Mesolithic : Star Carr, Seamer. Scarce (BMNH; SM).



## OTTER

*Lutra lutra* (L.)

Early Iron Age : Costa Beck (Duncombe 1899).  
Thornton-le-Dale (Bate 1931).

## BADGER

*Meles meles* (L.)

Mesolithic : Star Carr, Seamer. Scarce (BMNH).  
Bronze Age : Remains found in several of the Wold barrows  
Mortimer 1905, pp. 204, 347) including a skull found  
with human skeleton at Weaverthorpe (Greenwell  
1877, p. 200).  
Early Iron Age : Thornton-le-Dale (Bate 1931).

## SPOTTED HYÆNA

*Crocota crocota* (Erxleben)

Now confined to Africa but is frequently found in Pleistocene  
deposits in Britain. Kirkdale Cave was recognised as a typical Hyæna  
den by Buckland in 1822, the first to be discovered in this country.  
Pleistocene : Kirkdale Cave. Very numerous. Remains figured  
by Young 1822, plate XVII, fig. 15; Buckland 1823,  
plates 3-6; Owen 1846, fig. 55; Reynolds 1902,  
plate 5, fig. 9 (YM; HMG; SM).  
Sewerby, ?*crocota* var. *spelæa* (Lamplugh 1891).

## WILD CAT

*Felis silvestris* Schreber

Early Iron Age : Castle Hill, Scarborough, one bone (SM).  
Thornton-le-Dale (Bate 1931).

## LION

*Panthera leo* (L.)

Now confined to Africa and Asia but its range extended to Britain  
in the Pleistocene.  
Pleistocene : Kirkdale Cave. Teeth figured (as "Tiger") by  
Buckland 1823, plate 6; Owen 1846, fig. 64  
(BMNH).

## RODENTIA

## BEAVER

*Castor fiber* L.

Inhabited Britain from the Pleistocene to Mediæval times.  
Mesolithic : Star Carr, Seamer. In moderate quantity (BMNH;  
SM).  
Neolithic : Teeth in Barrow 273, Howe Hill, Duggleby, E.R.  
(Mortimer 1905, p. 28, fig. 55).  
Bronze Age : Tooth in Barrow No. 98, Painsthorpe Wold, E.R.  
(Mortimer 1905, p. 132, fig. 340) and implement  
from tooth in Barrow II, Langton, E.R. (Greenwell  
1877, p. 138).



Early Iron Age : One skull from Costa Beck settlement (Duncombe 1899).

### HOUSE MOUSE

#### **Mus musculus** L.

Recorded from Kirkdale Cave (jaw and teeth figured as "Mouse" by Buckland 1823, plate 11, figs. 7-9 and Owen 1846, fig. 79) but probably a late introduction.

### WATER VOLE

#### **Arvicola amphibius** (L.)

Pleistocene : Kirkdale Cave. Remains figured (as "Water Rat") by Buckland 1823, plate 11, fig. 12 (BMNH).  
Sewerby (Lamplugh 1891).

Bronze Age : Bones in Barrow 284, Wold Newton, E.R. (Mortimer 1905, p. 352) and large quantity of "Vole" bones found with food vessel in Barrow XLV, Weaverthorpe, E.R. (Greenwell 1877, p. 199).

Early Iron Age : "Voles" recorded from Costa Beck settlement (Duncombe 1899).

### SHORT-TAILED FIELD VOLE

#### **Microtus agrestis** (L.)

Pleistocene : ?Kirkdale Cave. Remains figured (as "Water Rat") by Buckland 1823, plate 11, fig. 11.

Bronze Age : "Field Vole" recorded from Barrow 284, Wold Newton, E.R. (Mortimer 1905, p. 352).

### LONG-TAILED FIELD MOUSE

#### **Apodemus sylvaticus** (L.)

Bronze Age : Barrow 284, Wold Newton (Mortimer 1905, p. 352).

### LAGOMORPHA

#### BROWN HARE

#### **Lepus europæus** Pallas

Pleistocene : Kirkdale Cave. Lower jaw figured by Buckland 1823, plate 13, fig. 8 (BMNH).

Mesolithic : Star Carr, Seamer, "Hare". Scarce (BMNH).

Bronze Age : "Hare" recorded from Barrow LXIII, Rudston, E.R. (Greenwell 1877, p. 251n).

### RABBIT

#### **Oryctolagus cuniculus** (L.)

It is possible that the Rabbit was present in the Pleistocene of Britain but the remains from Kirkdale Cave figured by Buckland 1823, plates 10-11, may be late introductions. There are no definite records of the species from prehistoric sites in this area.

## UNGULATA

## SLENDER-NOSED RHINOCEROS

**Rhinoceros hemitæchus** Falconer

An extinct interglacial species of the Middle Pleistocene of Britain.

- Pleistocene : Kirkdale Cave (BMNH).  
Sewerby. Recorded as **R. leptorhinus** Cuvier  
(Lamplugh 1891).

## WOOLLY RHINOCEROS

**Rhinoceros antiquitatis** Blumenbach

An extinct glacial species of the Middle and Upper Pleistocene.

- Pleistocene : Kirkdale Cave. Teeth figured by Buckland 1823,  
plate 7, figs. 3-6; Owen 1846, fig. 125 (BMNH).  
Grifthorpe Bay, ?**antiquitatis**, molar (SM).

## HORSE

**Equus caballus** L.

Although the generally regarded view is that the Pleistocene Wild Horse became extinct in Britain at the end of that period, certain evidence has been produced (Speed & Etherington 1952) that suggests its survival in breeds of ponies still existing in this country.

- Pleistocene : Kirkdale Cave. Remains figured by Buckland 1823,  
plates 7 & 10 (HMG; SM).  
Flixton Carr (Site 2). Late Upper Pleistocene  
deposit (Moore 1951) (SM).

- Bronze Age : Present in a number of barrows (Greenwell 1877;  
Mortimer 1905) including Peasholm Barrow,  
Scarborough (SM).

- Early Iron Age : Castle Hill, Scarborough, Iron Age "A" settlement,  
abundant in 1921-5 excavations. Used for food  
purposes. A slender-limbed animal about 13½ hands  
in height (SM).

Several chariot burials of Iron Age "B" culture  
included skeletons of small horses: Crossgates,  
Seamer (Mortimer 1905, 358); Arras, Market  
Weighton (Stillingfleet 1848).

Costa Beck settlement, small slender-limbed horse  
numerous (Duncombe 1899; Bate 1931).

Thornton-le-Dale settlement, small horse present  
(Bate 1931) (SM).

## PIG

**Sus scrofa** L.

The Wild Boar, a temperate-forest species, became extinct in Britain in historical times. Domestic pigs were introduced in the Neolithic Age.

- Pleistocene : Kirkdale Cave (SM).  
Mesolithic : Star Carr, Seamer. Scarce (BMNH; SM).  
Neolithic : "Pig" recorded from Barrow 273, Howe Hill,  
Duggleby, E.R. (Mortimer 1905, 40) and jaws of  
about twenty pigs found in the Hanging Grimston

Long Barrow (*ibid*, 103-4).

Manham Hill Late Neolithic Settlement, Seamer (SM).

East Ayton Long Barrow, Wild Boar's tusks present (Londesborough 1849).

Bronze Age : Wild and domestic pig remains recorded from a considerable number of barrows (Greenwell 1877; Mortimer 1905).

Early Iron Age : Castle Hill, Scarborough, Iron Age "A" settlement. Single tusk of wild pig but domestic pig better represented although not abundant (SM).

Costa Beck settlement. Wild and domestic pig present but not plentiful. (Duncombe 1899; Bate 1931) (SM).

Remains of pigs frequently found in Iron Age "B" barrows on Wolds, sometimes in small pots, presumably as an offering to the dead (Greenwell 1906).

### HIPPOPOTAMUS

#### **Hippopotamus amphibius** L.

Present in Britain during interglacial phases of the Pleistocene. Kirkdale Cave representing its northernmost record. Now confined to Africa.

Pleistocene : Kirkdale Cave. Teeth figured by Buckland 1823, plate 7, figs. 8-10; plate 13, fig. 7; Dawkins 1874, fig. 79 (YM).  
Sewerby (Lamplugh 1891).

### ROE DEER

#### **Capreolus capreolus** (L.)

A woodland species inhabiting Britain from the Early Pleistocene.

Mesolithic : Star Carr, Seamer, abundant (BMNH; SM).

Flixton Carr Site 1 (SM).

Neolithic : Barrow 110, Hanging Grimston, E.R. (Mortimer 1905, pp. 103-4).

Barrow 273, Howe Hill, Duggleby, E.R. (*ibid*, p. 40).

Bronze Age : From several barrows on the Wolds (Mortimer 1905).

### ELK (MOOSE)

#### **Alces alces** (L.)

Present in Britain during the Mesolithic but the date of its extinction in this country appears uncertain.

Mesolithic : Star Carr, Seamer, fairly abundant. Mattocks and worked objects of antler figured by Clark 1949, plates XVII & XVIII and 1950, plate XIII (BMNH; SM).

Flixton Carr Site 1. One tooth (Moore 1951) (SM).

?Early Iron Age : Costa Beck. Possibly present (Duncombe 1899).

## REINDEER

**Rangifer tarandus (L.)**

Inhabited Britain during the glacial phases of the Pleistocene but probably disappeared from England before the Mesolithic.

Pleistocene : Kirkdale Cave. Remains figured as "smaller species of deer" by Buckland 1823, p. 19, plate 9, figure 5.

## RED DEER

**Cervus elaphus L.**

Present in Britain since the Early Pleistocene.

Pleistocene : Kirkdale Cave. Remains figured (as "large deer") by Buckland 1823, plate 9, figs. 3-4 (BMNH; SM).

Mesolithic : Star Carr, Seamer. The most abundant species. Barbed points ("Harpoons") of antler figured by Clark 1949, plates XI & XII and 1950, plates VIII and IX. Worked and unworked antlers, frontals and lower jaw figured by Clark 1949, plates X, XIV, XV, XVI & XVIII and 1950, plates X & XIII (BMNH; SM).

Flixton Carr Site 1 (SM).

Neolithic : Remains present in a number of barrows including Barrow 110, Hanging Grimston, E.R. (Mortimer 1905, p. 103-4).

Barrow CCXXII, Willerby Wold, E.R. (Greenwell 1877, p. 489) and antler picks from Barrow 273, Howe Hill, Duggleby, E.R. (Mortimer 1905, p. 27, figs. 59-60).

Bronze Age : Numerous records from barrows (Greenwell 1877 and Mortimer 1905). Antler picks from several burials including Barrow LXI, Rudston (Greenwell 1877, p. 231, fig. 34) and Barrow 54, Aldro, E.R. (Mortimer 1905, pp. 65-6, figs. 133 & 135).

Early Iron Age : Castle Hill, Scarborough. Few fragmentary antlers (SM).

Costa Beck (Duncombe 1899; Bate 1931).

## GIANT DEER (IRISH ELK)

**Megaceros hibernicus Owen**

An Upper Pleistocene deer of exceptional size. No certain records of post-Pleistocene date (Mitchell & Parkes 1949).

Pleistocene : Kirkdale Cave (BMNH).

Bridlington (Reid 1885, p. 49).

Sewerby, ?**Megaceros** (Lamplugh 1891).

Wold Newton. Remains from Bronze Age Barrow 284, identified by E. T. Newton (Mortimer 1905, p. 352), probably derived from the chalk gravel of late Upper Pleistocene date upon which the barrow is built and of which the mound has been largely constructed.

## SHEEP

**Ovis aries** L.

Introduced into Britain as a domestic species in Neolithic times. Remains often indistinguished from those of goat.

- Neolithic : Sheep or goat. Barrow 273, Howe Hill, Duggleby, E.R. (Mortimer 1905, p. 40).  
 Bronze Age : Fairly numerous records of sheep or goat from barrows (Greenwell 1877; Mortimer 1905).  
 Early Iron Age : Castle Hill, Scarborough. Rather scarce (SM). Costa Beck. Numerous (Duncombe 1899; Bate 1931).

## GOAT

**Capra hircus** L.

Also introduced during the Neolithic.

Neolithic and

- Bronze Age : See Sheep above.  
 Early Iron Age : Costa Beck. Single skull (Duncombe 1899).  
 ?Thornton-le-Dale (Bate 1931).

## EUROPEAN BISON

**Bison bonasus** (L.)

A woodland species almost exterminated in Europe. May have inhabited Britain until the Mesolithic Age.

- Pleistocene : ?Kirkdale Cave.  
 Sewerby. Bison sp. (Lamplugh 1891).

## WILD OX

**Bos primigenius** Bojanus

A temperate forest species of huge proportions, now completely extinct. It is possible that it survived in Britain until Roman times.

- Pleistocene : Kirkdale Cave. Remains figured by Buckland 1823, plates 8 & 10 (BMNH; SM).  
 Mesolithic : Star Carr, Seamer. Fairly abundant. Skulls figured by Clark 1950, plate XIII and worked bones by Clark 1949, plate XVIII and 1950, plate XII (BMNH; SM).  
 Flixton Carr (SM).  
 Bronze Age : Remains described as "Urus" from Barrow 209, Acklam Wold (Mortimer 1905, p. 90), Barrow 284, Wold Newton (*ibid.* p. 352) and "Pit-dwelling", Garton Slack (*ibid.* p. 221. " ?Urus " from Barrow LXVII, Rudston (Greenwell 1877, p. 262 n).

## CELTIC OX

**Bos longifrons** Owen

A species introduced into Britain in a domesticated form during the Neolithic period.

- Neolithic : Barrow 273, Howe Hill, Duggleby, probably **longifrons** (Mortimer 1905, p. 40).  
 Manham Hill, Seamer, Late Neolithic settlement.  
 "Ox" (SM).

- Bronze Age : Frequently present in barrows (Greenwell 1877, Mortimer 1905), including Peasholm Barrow, Scarborough (SM).
- Early Iron Age : Castle Hill, Scarborough, Iron Age "A" settlement. Abundant 1921-25 excavations; only species identified in 1953 excavations. A breed slightly larger than the Celtic Ox may have been present (SM). Costa Beck, near Pickering, abundant (Duncombe 1899, Bate 1931) (SM). Thornton-le-Dale (Bate 1931) (SM).

### STRAIGHT-TUSKED ELEPHANT

#### *Elephas antiquus* Falconer

An interglacial species of the Middle Pleistocene.

- Pleistocene : Kirkdale Cave (YM; BMNH).  
Sewerby (Lamplugh 1891 & Sheppard 1906).

### MAMMOTH

#### *Elephas primigenius* Blumenbach

An Elephant of the later glacial phases of the Pleistocene. Local finds restricted to tusks and molars.

- Pleistocene : Flamborough (SM).  
Kirkdale Cave. Molars figured (as "Elephant") by Buckland 1823, plate 7, figs. 1-2 (SM).  
Robin Hood's Bay (Young 1822, p. 269, plate XVII, fig. 1 and Bevan 1909).  
Scarborough (Young 1822, p. 270) (SM).  
Wykeham (SM).

### MUSEUMS

In the above list the abbreviated references to museums are not to be considered exhaustive and indicate only that certain museums possess animal remains from a particular site but not necessarily those quoted as figured. Pleistocene material from Kirkdale is scattered among a number of additional museums including the Sedgwick Museum (Cambridge), University Museum (Oxford), Geological Museum (London), Whitby Museum and Royal Scottish Museum (Edinburgh).

The Mortimer collection is in the Hull Museum, Greenwell's material is in the British Museum, and Bateman's collection is in the Sheffield Museum.

BMNH	British Museum (Natural History)
HM	Hull Museums
HMG	Hunterian Museum, Glasgow
SM	Scarborough Museums
YM	Yorkshire Museum, York

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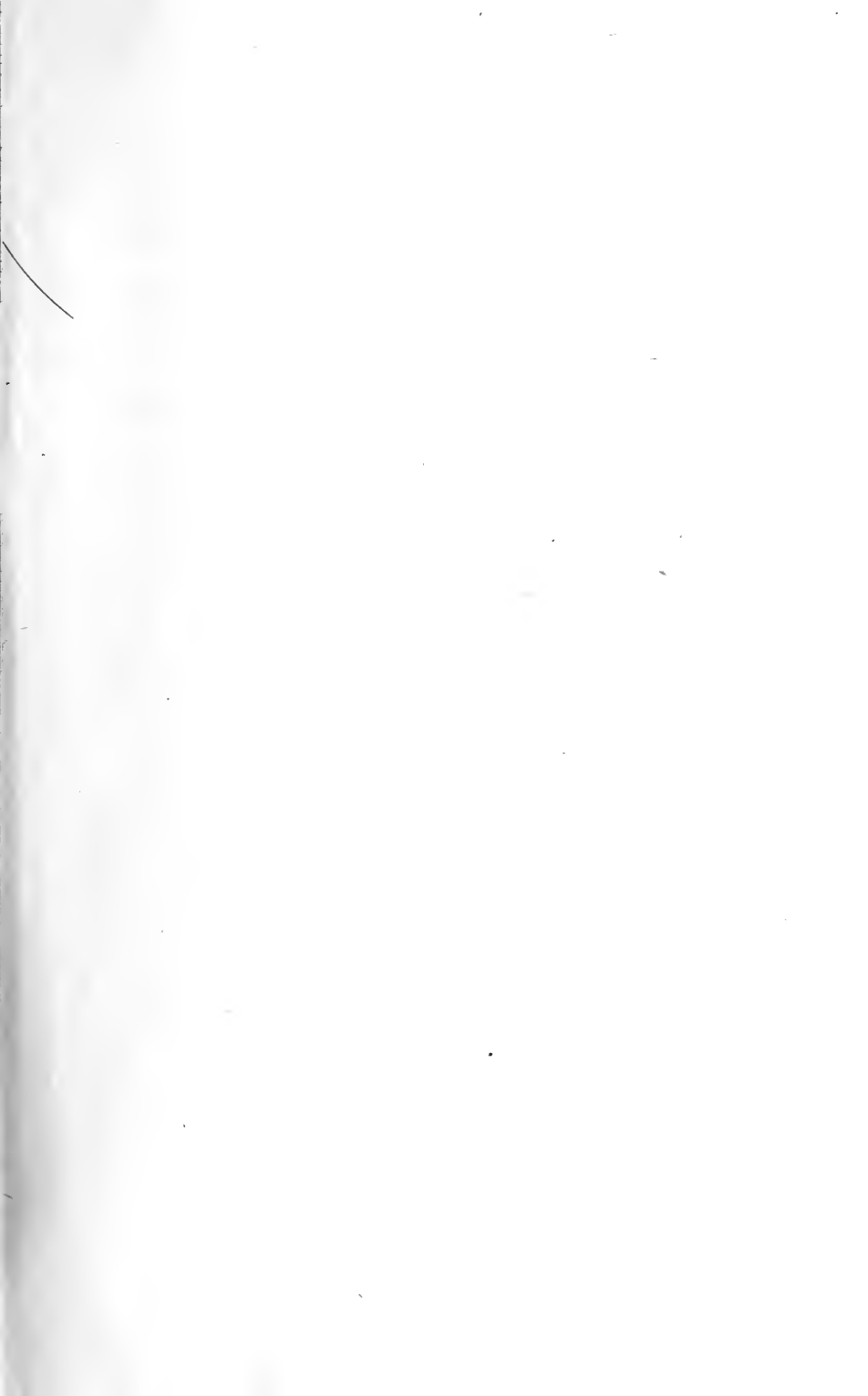
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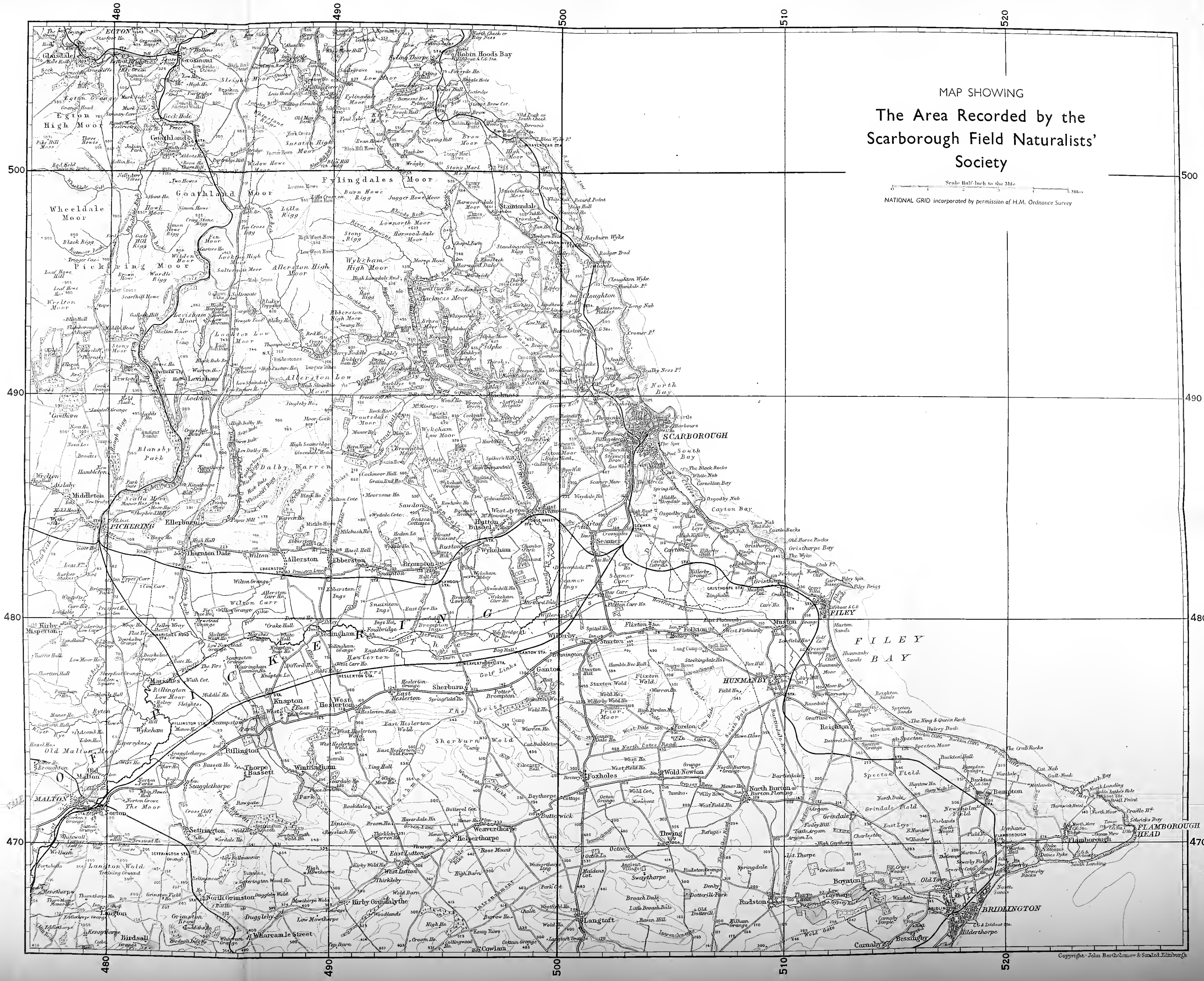
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MAP SHOWING  
The Area Recorded by the  
Scarborough Field Naturalists'  
Society

Scale Half-Inch to the Mile  
NATIONAL GRID incorporated by permission of H.M. Ordnance Survey











P. 100, 101, 102.

